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THE

TREASURY

OF

MEDICINE

THE

TREASURY OF MEDICINE.

THE

TREASURY OF MEDICINE;

OR,

Every One's Medical Guide:

CONTAINING

DIRECTIONS ON THE DISEASES OF MEN, WOMEN, AND CHILDREN;

ON BATHING, DIET, REGIMEN FOR THE SICK, &c.;

ON CLIMATE AND MINERAL WATERS FOR INVALIDS & TRAVELLERS;

WITH

Especial Advice to Emigrants of all Classes;

AND

Forming a Book of Reference for Clergymen, Parents, Pregnant Females, English Residents abroad, Captains of Ships, Emigrants, and others.

By JOHN JAMES, M.D., &c.

LONDON:
GEO. ROUTLEDGE & CO., FARRINGDON STREET.
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1854.

157. c. 140.

PREFACE.

THE writing of the following pages, which contain the embodied professional experience of full forty years, originated in a promise made by the writer to one of his daughters, then about to settle in a foreign land—and that promise was, to select some one of the present works on Domestic Medicine—to make marginal or interleaved remarks and emendations—to supply omissions—and to add to practical utility.

But on attempting to make the selection, he found that what he wanted, and what was necessary to direct the non-professional reader, was scattered about in a great many different works—so that instead of one volume, a little library would have been necessary.

He then thought he had better write an entire work from his own knowledge; at the same time, taking advantage of the suggestions and directions published by his predecessors.

He was much encouraged to do this from having, not long ago, prescribed for many of his countrymen, who were living abroad, far away from medical assistance, and in places where professional advice from an English doctor was too frequently out of the question. Many, and nearly all of these persons were dependent

on old editions of books on Domestic Medicine, originally imperfect; and they deplored their want of a book, a single volume, that should contain short but intelligible directions with respect to the prevention of disease, and to medical management.

To be able to help some of these persons—to give them comfort in the form of professional advice, when sickness assailed them, their wives, their children, or their relatives, was a stimulating prospect to the author—and may it please that Providence, which disposes of our purposes, rough-hew them how we will, to grant success to this attempt.

The book is divided into sections. The first treats of the Prevention of Disease—in which malaria, diet, baths, hydropathy, with cookery for the sick, the convalescent, and for invalids; the causes of bilious and other diseases, are contained. The second, comprises directions to invalids and travellers, as to climate; in conformity with the improved knowledge of the present times.

The subject of the third section is Mineral Waters. The fourth, gives the description and treatment of the diseases of adult men and women. The fifth, of the diseases peculiar to females—with the management of pregnancy, &c. And the sixth, of the diseases of infants and children.

In the last section will be found a list of poisons, with their antidotes, and of medicines, with many tried prescriptions; also, full, useful directions, and advice, offered especially to emigrants of all classes.

At the end of the book, a comprehensive alphabetical index will afford ready reference to every subject.

This book, then, will be useful, if not indispensable,

to those who travel—who wish to travel in comfort and in comparative safety; and who may, at any time, be arrested by sudden sickness at some roadside inn, in a foreign land.

To the traveller it may also be useful, before he sets forth on his journey, by pointing out to him whither he had best direct his course, so as to reap the most advantages. Neither should the captains of ships, where there is no surgeon on board, attempt to sail without a book of this kind.

The invalid, or convalescent, abroad, or at home, will here find directions of considerable value—while those threatened with disease, may here be taught how to avoid the oncoming shock, or to mitigate its violence; and the delicate-minded female may herein read of ailments peculiar to her sex, about which she would not like to ask, nor to which would she like, or venture, even to allude.

Many during convalescence, invite a relapse, not unfrequently fatal, from mere ignorance; to them, these pages will serve as guides and beacons.

To the clergyman in a secluded district, and to parents or superintendents of families, the advice here given, may often enable them to avert mischief or danger to life, even before a doctor can arrive, who may reside at several miles distance, or who might be absent when called upon, for his immediate services. As, for instance, in the case of croup, where loss of life may be the penalty of even a comparatively short delay—while to nurses, and all who have to take care of the sick, it will enable them to work judiciously under their doctor's directions, and to understand how to promote the objects sought to be attained by the proposed modes of treatment.

Lastly, when sickness assails, there are directions how to proceed, in the unavoidable absence of the medical man. It is presumed that no one would rely solely on a book of this description, if good professional advice can be obtained; for surely, no argument can be needed to convince every one of the superiority in advice and assistance, to be derived from a regularly-educated practitioner, over that which is to be obtained from mere book-knowledge. It would be less rash, less ridiculous, less suicidal, to go to sea in a ship, without an experienced captain, or pilot.

That this book may be useful to all the foregoing classes, few will deny; but what shall we say of its value in the hands of the emigrant? who, with his family, relatives, and friends, leaves his native land with the laudable desire of benefiting his wife and children, and who is, perhaps, obliged to locate himself in some spot many miles distant from his fellow countrymen, where he must depend on his own energies, his own knowledge, and forethought. To such a man this book must indeed prove a comfort; for it will show him how to provide against illness—how to secure the greatest probability of health by avoiding unhealthy sites, &c.—and, greatest comfort of all, how both to avoid the onset of disease; and when it has occurred, to treat it with a prospect of considerable success; instead of seeing his wife or children dying away around him, without his being able to make one well-directed effort to save them.

If the author is but permitted thus to help his fellow man, he will, with gratitude to the Supreme *Ruler*, deem his trouble amply repaid; and his *lengthened professional* experience devoted to the

best of all possible purposes. And he hopes some of his benevolent readers will present a few copies gratuitously to their poorer brethren, who are about to emigrate.

In a work of this description, no claim to originality can justly be set up; since the whole of the contents are the results of, not only much reading, and of close, continued attention to all proposed improvements in the medical art and science, but also of a practical bedside experience, accumulated both in public and private practice, during many years—the writer having served as physician to three Dispensaries and to two Hospitals—in addition to which, his attention has for more than twenty years been devoted to the management, and improvement of delicate health—to the prevention and treatment of Consumption and Scrofula—and to the subject of Hygienics (sanitary matters) in general—having published on those subjects professedly.

May his present efforts be blessed unto success.

51, *Frith-street, Soho-square,*
London.

"Life is a continual struggle with the forces of Nature—a constant alternate disturbance and restoration of a state of equilibrium.

"In every hour, a portion of the human body dies off; and even in the state of perfect health, the machine, after seventy or eighty years, becomes the prey of the inorganic powers; all resistance ceases; the elements of the machine return to the atmosphere, and to the soil.

"Man, in order to preserve his temperature, and to protect him against the weather, requires a dwelling, food, clothing, and fire; in order to preserve health, he must have the means of insuring personal cleanliness; and to restore it, he must have medicine."—LIEBIG.

"Millions annually perish from a neglect of the conditions which Divine wisdom has appointed as requisite for the preservation of the body from fatal disease; and millions more are constantly suffering pain and weakness, that might have been prevented by a simple attention to those principles which it is the province of Physiology to unfold."—*Dr. Carpenter's Animal Physiology.*

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THE

TREASURY OF MEDICINE.

SECTION I.

ON PREVENTION OF DISEASE, BY DIET, EXERCISE, BATHS, ETC.

THERE is no place, says Dr. Smith, which man has made his abode, where noxious agents which act injuriously on his body have not been present, and these noxious agents invariably disturb the actions of its economy, and tend ultimately to destroy life. But fortunately, certain inherent conservative powers exist, which resist the influence of these causes of mortality.

The actual mortality at all times will, therefore, bear a proportion, regulated by the relative strength of these destructive agents, and the relative weakness of these conservative powers. There are, also, states which tend to enfeeble these resisting or conservative powers—such as the states of parturition, infancy, sickness, or those produced by errors in the modes of life—and during the prevalence of these states, life may be destroyed by causes which would not prove fatal to life under more healthy conditions of the system. Were the condition of the body always that of health, and the mental state one of enjoyment, the duration of life would probably be extended to its utmost limits,—but this duration is abridged by whatever tends to disturb or overthrow the functions of the body—wherefore an improvement of an invalid state, or the maintenance of a healthy condition, must not only tend to lengthen life, but materially conduce to absolute enjoyment—and, thus, the prevention of disease becomes of the utmost importance to every one.

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Impressed with these truths, the writer wishes, by a few practical observations, to point out the means whereby we may avoid many serious errors which are committed during the several stages of human life—errors, partly caused by the habits which civilization has formed, partly by ignorance or thoughtlessness.

It will not prove unprofitable, therefore, if we advert to these causes of disease, which operate, often by slow degrees and imperceptibly, and yet which are endowed with great power. And first, of the air we breathe.

The Air

we breathe—the atmosphere—ought to be considered with regard to its purity—its temperature—its pressure or hygrometric state; and its electric condition—as regards the induction of disease.

Atmospheric air, as far as its chemical components are concerned, is the same everywhere—yet it can hold suspended, or in solution, many invisible as well as visible effluvia, such as various gases—unhealthy miasms—and odours. The calorific and colorific rays of the sun, penetrate it, and are again reflected from the surface of the earth—partial rarefaction takes place; and the seasons influence it.

The atmospheric air is composed of oxygen and nitrogen, with a very small proportion of carbonic acid gas: before inspiration, it consists of 23 parts oxygen and 77 nitrogen, and after expiration 3½ per cent. of carbonic acid, or on an average 27½ cubic inches of carbonic acid are evolved from the lungs every minute, or about 40,000 cubic inches in 24 hours, weighing nearly 3 pounds, and containing about 11 ounces of carbon. The difference between the air before and that after respiration, arises from the action of the lungs or respiratory organs upon it, by which the oxygen in the respired air is instrumental in removing from the blood a great portion of the carbon, and in changing the venous or dark bluish-red blood of the veins into the bright red arterial blood.

This arterial blood is destined to maintain in a healthy state all the organs and parts of the body, so that, by the action of certain organs, certain secretions may be elicited from it to its own purification; and when the arterial blood has *effected these* objects it is again returned, by the veins, to *the heart and lungs*, there to be acted on by the atmo-

spheric oxygen. How important, then, it becomes, that pure air should be supplied in sufficient quantity!

A man requires the supply of one-sixth of a cubical foot of oxygen from the atmospheric air, per minute: but because of the mixture of his breath (expired air) with the air around him, he requires, to be safe, the ventilation-supply of two or three cubical feet per minute,—since it appears, that at each respiration, 16 cubic inches of air are on an average deteriorated, and from 15 to 20 such respirations are taken in a minute, consequently 300 to 320 cubic inches of air are each minute poisoned (as far as the animal race is concerned) by each individual, and rendered unfit for the support of human life.

The ultimate elements of animal matter consist of four gaseous bodies,—carbon, hydrogen, oxygen, and nitrogen,—and by the varied union or intermixture of these bodies the proximate animal compounds are formed. Into the composition of these latter carbon largely enters; the fibrine, alone, of which muscles are formed, containing more than fifty-three per cent of carbon; thus a good deal is required. Yet this quantity once attained, nature seems to bear with any superfluity very badly. So much so, that if carbon exist in the arterial blood, beyond its normal healthy proportion, it acts like a deadly poison ultimately, and sometimes immediately,—suspending the functions of the brain, and then the action of the lungs.

Wherefore, to avoid unnecessary accumulation of carbon, every one should look to the thorough ventilation of his rooms, both for sitting and sleeping in. The fireplaces, too, should be so arranged as to avoid exposure to draughts of cold air, and the old English open grates have been the causes of many a cold and inflammation: giving rise to danger even while sitting at home, for they heated unequally at different distances, and such was the draught of inrushing cold air from doors and windows that persons were scorched on one side while they were half-frozen on the other. The feet, to add to the mischief, being constantly in a bath of cold air, and cold feet induce a tendency to inward congestions. These objections may, in a great measure, be removed by allowing the fire to be supplied with fresh air through a tube which may be made to communicate with the external air in a direct line from the angle at the bottom of the grate. This was done by an ingenious patient of the *writer's* at a trifling expense.

In addition to this, the heated air, which has been vitiated by respiration, and which rises to the upper parts of the room—there remaining floating about, and gradually descending lower and lower as the process of vitiation goes on—may be removed continually as it forms, by means of an aperture or two made in the upper part of the room above the fire-place, and leading into the chimney-flue. These apertures could easily be concealed by a simple ornament, which almost any bricklayer could manufacture. Each opening should be covered by one of those self-acting and constantly turning ventilators, which are to be got in many places in London and elsewhere.

Contrivances to secure a plentiful admission of fresh air are also on sale,—through the upper panes of the windows, whereby a rushing descent of cold air is prevented, and the invalid farther secured.

If these three points were attended to—and this can be done at but little expense—many a cold, many a bronchitis, and much suffering from disease, would infallibly be prevented.

As to the dwellings of the poorer classes, the writer is delighted to find that the attention of a humane public, led on by a truly philanthropic prince and a noble earl, has been directed to the means of preventing that dreadful packing together of human beings in one small room, which has caused so many cases of typhus and other dangerous diseases, and has kept up foci of infection, dangerous to all who reside in their neighbourhood.

To secure proper ventilation, we ought to effect the introduction into the room of four feet, or of from two to three cubical feet per minute for each individual in it; and this must be done without allowing a stream of cold air to affect the body partially, more particularly during sleep, when the skin is especially sensible of frigorific impressions.

The temperature of the air in rooms should not exceed 58° of Fahrenheit, or in some invalid cases of 60°; but the cooler it is the better, so long as no chilling effect is felt. If the external temperature be lower than that of the body, the caloric of that body is carried off, and is speedily replaced in a healthy individual, by an evolution of heat from within, aided by clothing, coverings, and exercise. *When the* external temperature approaches the standard *heat of the body* (about 98°), sweat soon breaks forth, and

the superfluous heat is carried off by perspiration—an external temperature of 98° is rather oppressive. But the terms hot, warm, and cold, are merely relative to our sensations; and if the heat is carried off as fast as it is generated, and no faster, no particular sensations are felt. Now this equilibrium is maintained (supposing no extraordinary exertions are made) when the thermometer stands at 62° Fahrenheit, or thereabouts. That point in the scale may be called temperate; all degrees above that point up to 70° are reckoned warm; and all above 70°, hot. A temperature descending between 60° and 50° is considered cool, and every lower degree is cold.

Too high a temperature causes a relaxation, from which the weak and delicate must suffer, so that such persons should avoid exercise in summer while the sun is powerful; and even the healthy and robust ought to be cautious in this respect in sultry summer weather. The siesta of the Portuguese and Spaniard is not a mere luxurious habit—it is essential to health. The cold of winter is more healthy than the heat of summer, provided we are well clothed, can afford fires, and are strong enough to take sufficient exercise. Some of Captain Parry's officers, when near the North Pole, walked daily upon the ice, when the thermometer was 20° below zero, that is, 50° below freezing.

The air, in respect of humidity, may bring on a tendency to disease. Air too humid relaxes and depresses the nervous system, and too dry air is equally hurtful; but cold moist air is more injurious than cold dry air; hence night air is generally injurious to invalids. Warm moist air may favour dysentery, cholera, and fevers.

When the indication of the hygrometer does not exceed 15°, we are directed by our feelings to call it damp; from 30° to 40°, we begin to reckon it dry; from 50° to 60°, very dry; and from 70° upwards, intensely dry. A room is not comfortable, or, perhaps, wholesome, if it has less than 30° of dryness; but the atmosphere of a warm occupied apartment will commonly produce an effect of upwards of 50°. If an invalid requires a high temperature in his rooms, he should have evaporating dishes placed in them to secure a healthy proportion of humidity. But sudden variations are very dangerous, and do more mischief, perhaps, than in any other way. Were it not for its con-

tinual variations, the climate of England would be much more favourable to health than it is.

The influence of light and of the sun's rays is very conducive to health, and to the growth of children. We see this influence displayed in the development of certain lower animals. If we inclose tadpoles of both frogs and toads in different boxes, some of which shall admit light, others exclude it, and place these boxes in running water, we shall find that the tadpoles exposed to the light will have undergone the change to the perfect form of the animal; while those excluded from the light, though they may seem perfectly vigorous, shall not have undergone the transformation, even though they may have increased to double or triple their primitive weight. In all those climates where the heat renders desirable a state almost approaching to nudity, we shall find the development of the frame is early; and the form has fewer deviations from the symmetry natural to the race than among the northern nations. Deformity is comparatively rare in hot climates, where the surface of the body is much exposed to light. The muscular and rounded forms of the Mexicans, Peruvians, the Chaymas of South America, and in other warm climates, are the proofs that light and heat are favourable to a healthy development. Heated air must, however, be avoided by the invalid; though light should be admitted as much as can be borne. Heat expands air, and then it occupies a larger space in proportion to its weight; consequently, at each inspiration, less air is really breathed, less oxygen obtains access to the blood, and the blood is not so well aërated as it ought to be. Accordingly, we find persons respiring such an atmosphere soon feel faint; and in crowded assemblies, or rooms not sufficiently ventilated, people are often carried out in a fainting state, partly from this cause, and partly from the carbonic acid gas, floating diffused in such an atmosphere; hence, too, many persons suffer from headaches after attending lectures, &c., in ill-ventilated rooms.

To give an idea of the air, as a cause of disease, some facts may be mentioned which were adduced in 1847, in a very interesting lecture, by Mr. Toynbee, on ventilation.

He said, disease from atmospheric impurities seemed to *be the rule*, and health the exception. One-fourth of the *children, born in* England, died before their fifth year, and *out of 49,089 deaths* in 1846, 14,368 died from diseases of

the respiratory organs—impure air being the great source of these diseases—and out of this number 49,089 people who died in 1846, 22,275 died before their fifteenth year, and only 2241 attained old age.

The air should be always in motion; stagnant air becomes impure, like water. Air always contains much animal and vegetable matter, in the form of ova (eggs) of infusoria, and the seeds of the lower vegetable organisms.

But the act of respiration is a great cause of the deterioration of air. The air in the lungs is exposed to 170 millions of cells, having a surface equal to thirty times that of the body. The air ejected after respiration is poisonous.

A second cause of deterioration is the combustion of lamps, gaslights, candles, &c. A single candle is nearly as injurious to the air as a human being, and two fourteen-holed Argand lamps consume as much air as eleven human beings.

A third source of impurity is the vapour, loaded with animal matter, given off from the lungs and skin. Each of these parts pours out an ounce of fluid every hour; so that in a church, containing 500 people, twelve gallons of noxious fluid are given off in two hours.

The fourth source is the large quantity of decomposing animal and vegetable matter, and the effluvia arising; added to this, is the difficulty of dispersing such effluvia by the wind in consequence of the crowded houses, close streets, &c. Dr. Mantell found that various classes of infusoria, which he could keep alive at Clapham, would not live in London air. And few plants will live in London.

Fever, consumption, scrofula, deafness, and common cold, are traceable to imperfect ventilation.

One hundred and twenty thousand people, in England and Wales, are slowly dying of phthisis (consumption).

The propositions submitted to government for ventilation were, that no living, sleeping, or work-room, should be less than eight feet high, and should contain 144 superficial feet.

2. That such room should have at least one window, opening at its top, and also an open fire-place.

3. That Arnott's valve should be opened into the chimney at top of every such room—no smell need be feared. In St. George's and St. James' Dispensary there was a diminution of nearly 800 applicants, owing to improved ventilation, and this improvement was owing to the exertions sus-

tained by the Samaritan Fund, attached to the dispensary, to secure ventilation of the abodes of the poor in the district.

4. Every room must have the means of admitting fresh air, and all products of combustion should be carried off as they are formed; and an efficient plan has been in operation in several places.

5. All churches, schools, theatres, lecture-rooms, workshops, workhouses, &c., should be made to adopt approved and efficient means of ventilation, under the superintendence of an officer of health.

As to the atmospheric electrical variations it is not easy to guard against them; they influence the nervous system rather than the vascular, and cause depression of spirits, in the absence of misfortune, anxiety, or anything likely to produce such a state of feeling. The best way to repel such injurious influences is to invigorate the body by every possible means—by exercise, proper diet, and clothing. The author thinks he has observed that wearing silk about the body, as, for example, a silk waistcoat, has done some good, and he found that some patients of his escaped pains in their knees, which looked like those of rheumatism, but which either came on, or were always much increased, during certain electric atmospherical changes, by wearing silk pocket-handkerchiefs round their knees, or by enveloping them in silk.

The air is the medium of conveyance for endemic and epidemic influences.

The term malaria may be applied to certain emanations from the earth, and should possibly be restricted to those vapours or miasms which induce endemic diseases, or those arising from local influences; still the origin of epidemical influences may be the same as that of endemic, only that the epidemic is borne on the wind, coming from distant quarters; still, whether distinct or not, there is no doubt that, though the Asiatic Cholera is an epidemic disease, yet the liability to its visitation is evidently connected with local circumstances, which either assist in developing the activity of its mysterious germs, or, at all events, exert an attractive influence over them.

Endemic, means in or among a people, applying to diseases peculiar to a certain class of persons or country. Thus ague is endemic in marshy places, bronchocele in *Derbyshire, scurvy* to seafaring people. Epidemic, means

upon the people, as if an atmosphere descended and involved a large number at once; it applies to diseases, contagious or otherwise, which attack many people at the same season, and in the same place. Thus putrid fevers, plague, dysentery, Asiatic cholera, influenza, &c., are epidemic.

The malaria is a specific poison, and it produces specific effects upon the human body; it is not simply bad air, or impure air, it is a widely spread poison, and the mildest form of fever it gives rise to is ague. In hot climates it occasions remittent, and even continued fevers, often of bad type or character. These gaseous emanations proceed from the earth's surface; they are aëriform, or are conveyed in the atmosphere—though they are imperceptible to our senses, nor do we know anything of their chemical or physical qualities.

Malaria requires a certain temperature for its production. It is seldom traceable beyond the 56th degree of north latitude, and 60 degrees of Fahrenheit is the temperature said to be requisite for it to exist. The nearer we approach the equator the more virulent are the effects; but while in England it gives rise to intermittents (agues), in Spain and the Mediterranean remittent fevers, as well as agues, arise from it; and in the West Indies continued fevers. To this degree of temperature a certain degree of humidity must, however, be added.

Agues are accordingly endemic in Holland, and, in Italy, the Pontine Marshes, and the district called the Maremma, are celebrated for the ravages committed by it; so that a portion of country, stretching for thirty leagues along the shores of the Mediterranean, and ten or twelve leagues broad, is rendered dangerous, and almost uninhabitable by it. America and newly settled countries are obnoxious to it. In India it is pestiferous to man and beast, and in May, after the rains have ceased in certain districts, and the extreme heat comes on, the very monkeys and tigers go up to the hills, and do not return till October. The decomposition of vegetable or animal remains, or of both, has been assigned as the originator of this poison; but this is not so. The putrefying animal and vegetable remains may coexist with, but do not originate the poison. These emanations proceed from parts of the earth's surface that have been flooded and then dried. The higher the temperature, and

the quicker the drying process, the more virulent the poison. When parts, previously dangerous, are entirely flooded over, the danger ceases.

In the West Indies, on the higher grounds, agues occur, lower down remittents, while in the lowest and hottest parts continued fevers arise.

Strangers are more readily affected than those habituated, but the black skinned negro is always exempt from all attacks. All malarious districts are more dangerous at night, and to sleep at night in the open air in such districts, would be to invite an attack; neither should the morning air be breathed too soon in such places.

The malaria loves the ground, and combines or becomes entangled with fogs; therefore persons should sleep in the highest rooms, for the poison does not rise high in the atmosphere. London fogs never rise more than 240 feet above the level of the sea at low water, and as the Norwood hills are 390 feet above the same level, the air on those hills is likely to be pure and invigorating. It is carried by the wind like a heavy fog or vapour, and these points should all be attended to by the traveller through malarious districts, or by those who settle in hot climates. Another singularity of malaria is, that the vapours lose their noxious properties by passing over even a small surface of water—perhaps they are absorbed by it; and many a sailor might escape an attack of fever by sleeping on board his ship instead of staying on shore. Malaria is attracted by, and adheres to the foliage of lofty trees, so that it would be very dangerous to sleep under them; yet this peculiarity proves a protection to many who live to leeward of an interposing screen or belt of trees. In Guiana, where large trees abound, the settlers live fearlessly and unhurt, close to the most pestiferous marshes, so long as they are thus protected by trees.

Lastly, numerous facts have proved that cultivation of the soil, draining, &c., have prevented the generation of malaria.

Persons should leave such dangerous localities, if they can, and travellers should stay as short a time in them as possible; but as malaria, in all probability, acts primarily through the lungs, wearing a Jeffreys' respirator might *protect*—probably would do so; also they should live as well *as they can in moderation*, and take a daily preventive *dose of quinine*, during the seasons of danger. No pre-

caution should be neglected to prevent an attack from malaria, since repeated fevers of this kind produce ultimately the most serious and dangerous consequences. As to epidemics, all that can be done in prevention is, to take care that all offensive materials shall be removed from our dwellings and homesteads; that drains and sewers shall be in constant, efficient, and full operation; that cleanliness be observed, and as plentiful a supply of pure air obtained as possible.

Unhealthy miasms creep up the sewers, ascend sinks in kitchens and water-closets, all which should be kept closed by self-acting valves, and the sinks well corked or stopped; for in this way both rich and poor are endangered, and may suffer; and the epidemic influence meeting with the miasm, seems to be immediately endowed with most deleterious power.

The Mental Affections as Causes of Disease.

The influence of mental impressions on the circulation of the body, are illustrated by the act of blushing, by the instantaneous pallor of fear, or by the swelling red face of anger, and the quickened breathing of surprise and joy; the sighing and pain in the chest which follow sorrow and other depressing emotions, display the power of the mind over the respiratory functions. Palpitations, tremors, faltering speech, and increase of muscular power, which are caused by various emotions, give us evidence of the power possessed by the mind over our muscles; and the tears which flow from sympathy show us its influence over the glands, while the secretions are affected also in a very extreme degree.

The first condition of a healthy action of the brain, is a sound original constitution; the second is a due supply of properly oxygenated blood; and the third is the regular exercise of its functions. If the brain be not sound originally, there is only the greater occasion for care, inasmuch as less will be sufficient to excite derangement of function in a brain so constituted, than in one of sound congenital structure.

The second condition is essential, for if the arterial blood within the cranium (skull) be not sufficiently oxygenated (pure), the mental functions will become impaired, or altogether cease; *and if it be over oxygenated*, it will be too *much stimulated. Living in an impure* air, breathing or

living in ill-ventilated places, or total want or deficiency of nourishing food, will, in course of time, affect the blood in this way of under-oxygenation, producing languor, headache, hysteric and other nervous symptoms. On the other hand, a diet too nourishing or abundant, will also, like too poor and scanty a diet, affect the blood through the stomach; and by preventing the proper assimilation of the food, cause the transmission to the brain of blood not sufficiently stimulating.

The third condition is the most important of all, for the brain must be duly exercised, but not overtasked; and yet how often is this overtasking met with in the present day! The brain obeys the same laws as other organs of the body, so far as its peculiar exercise is concerned. If it is allowed to be inactive, the intellectual functions will suffer in proportion to the inactivity, and act slowly and feebly. After a time, it reacts upon the body, and may induce indigestion, hypochondriasis, hysteria, and other nervous symptoms. The "*dolce far niente*" existence of the Southron is well known; but as applied to mind or body, no more pernicious mode of life than such an one can be adopted, destructive equally and alike of both mind and body. It may at first be pleasant, but its consequences are destructive. "*Il radice ha soave, il frutto amaro.*" Let every one resist the first temptation from this insidious foe, as he would avoid an overwhelming torrent.

But here, in England, we are more in danger of overtasking the brain than of the reverse; and, to begin with children, there is no doubt that too much intellectual exertion is demanded from them. In the earlier years of life nature is busily at work to build up in strength and soundness the various organs of the human body; leaving intellect to the last, as the Corinthian capital to life's column.

We should content ourselves with allowing the senses and perceptive powers of children to acquire information, and their intellect will thus educate itself. By so doing we do not interfere with the processes concerned in the growth of the body; but if we go beyond this, and exact from the immature brain what ought only to be expected from the maturer one, we shall certainly be originators and witnesses of a break down, which will be doubly melancholy if there have been previous promises of intellectual brilliancy.

For too rapid development of the brain entails premature dissolution; and premature mental attainments are frequently as destructive of life as a too rapid growth of the body. Philip Barettier was an instance of this. He was born in January, 1724. French was his mother-tongue with some words of High Dutch; but in consequence of his father talking Latin to him, it became as familiar to him as his native idiom. So that, without knowing the rules of grammar, he, at four years of age, talked French to his mother, Latin to his father, and High Dutch to the maid or neighbouring children, and without mixing or confounding the respective languages. In his fifth year he acquired Greek in like manner. Before he was six years of age he entered on Hebrew; at nine, he composed a dictionary of Hebrew words, with philological observations. With these he intermixed the study of the Chaldaic, Syriac, and Arabic; and having in his possession a pair of globes just at this time, in eight or ten days he was able to solve all the problems on them. He afterwards studied medals, inscriptions, antiquities, metaphysics, and experimental philosophy. This blazing meteor of genius died in October, 1740, aged only 19 years, 8 months, and 10 days. The vulgar saying, "he's too clever to live," is founded upon observation.

In other cases, these early specimens of superior intellect are sometimes followed by a state of imbecility. Antiochus tells us that Hermogenes, who was a celebrated rhetorician at 14 years of age, was ignorant in the extreme at the age of 24. *In pueritia senex, in senectute puer.*

Overstudy produces its victims continually, and we read of Cicero being dyspeptic; of Pliny's life being rendered miserable by heartburn; of Bayle dying a martyr to excessive application; and of Sir Isaac Newton falling into a deep melancholy for a long time, which deprived him of the power of thinking. Great students generally have extreme susceptibility of nerves and much irritability of temper, and their digestive powers are not only much impaired, but often nearly altogether overturned.

Such men are unintentional suicides, and little good can be expected from remonstrances; but in the case of children we have their management in our own hands, and much beneficial training *of their minds* can be effected, by *directing their opening powers* of observation, by teaching

them to discriminate accurately, and by pleasantly, and in the way of amusement, leading them on from the knowledge of effects to that of causes. Children will thus readily and rapidly acquire information, who, if they had been pinned down to learn, and, parrotlike, to repeat abstract propositions of grammar, &c., would appear the veriest dunces that ever disappointed a parent's hopes.

The author alludes here to young children only, for a time will arrive when a sugarplum system of education must be abandoned, and the business of education entered on in a serious and rational manner, alone worthy of its vast importance.

We read of the celebrated philosophe-moraliste, Michel de Montaigne, who imparted to the French language an energy which it did not possess before, that he acquired a knowledge of the Latin by having a person to reside with him who spoke nothing else; and Montaigne, in this easy way, learned to speak it as a vernacular tongue, with tolerable fluency and freedom, at the age of six. Greek was also taught him as a sort of diversion. "Nous pelotions nos declinaisons," says he, "à la manière de ceux qui par certains jeux de tablier (échiquier) apprennent l'arithmétique et la géometrie." By means equally gentle and attractive he was insensibly led to acquire some knowledge of science, and without forcing his inclination or imposing the necessity of application, his habits were formed, and his powers agreeably exercised.

Many other persons could be enumerated who have, as children, even drank somewhat deep at the fountain of learning, while it seemed as if they were only slaking a thirst for amusement.

The system of teaching at schools has been hitherto such, that but scanty regulations are provided for the well-being of the body; the cramming with learning and accomplishments being the chief if not the only object aimed at. It is thus teachers fail of success; their true policy consists in a regulated alternation of work and play. Who that has ever been a hard student, has not known, after some hours of severe study, both the great relief derived from a walk taken with a mind in repose, and the freshened energy with which study can again be applied to, enabling him to conquer the difficulties of the very same subject, which before *had appeared* nearly insurmountable.

In the education of young women, too little attention is

given to subdue the imaginative faculty, and to moderate sensibility; on the contrary, they are generally fostered—it is thus there is too often laid the foundation of hysterical, hypochondriacal, and even maniacal, diseases. The truly frivolous occupations of fashionable life, and that affected refinement which debars natural and active exercise, also nourish these tendencies, and become predisposing causes of every form of nervous disease; endowing slight causes of disease with undue power. To regulate the passions should be our constant study; for the exciting passions, when in excess, give rise both to spasms and convulsions, while the depressing passions relax the whole muscular system. The influence of education, and of a due regulation of the passions, is incalculably great.

Sleep.

Both mind and body require diurnal rest for the healthy exercise of their functions. The fatigued muscle must recover itself, and the overwrought mind would at length break down, if sleep did not enable it to cease for a time from all excitement and activity. The most complete repose is, of course, the most salutary; and to secure this, both body and mind should have been exercised during the day, just so far as to avoid painful fatigue or exhaustion; the circulation should not have been excited by deep study, intense thought, nor by any stimulant, for some time previous to retiring to rest. Late and copious suppers should be avoided; the head not kept too warm; while the feet, especially if they are disposed to be too cold, as in many females, should be brought to a healthy temperature, before getting into bed. An iodine warm foot-bath, with a little cyanuret of potass in it to prevent itching, will be found serviceable. Lastly, the cares of the day should be put off with the clothes.

The quantum of sleep varies with the circumstances of an individual; some requiring more than others. One author tells us that the oldest man he ever personally knew, a man aged one hundred and eight, informed him that he rarely exceeded four hours of sleep in a single night at any period of his life; but from six to eight hours may be regarded as the proportion for a healthy adult. Too much sleep favours apoplexy and coma, and too little wears out the brain *and nervous system*, and might induce *a suspension or impairment of* their functions.

The bed-rooms should be spacious, or at least, well ventilated; their temperature should be moderate, and not subject to any great diminution throughout the night; the bedsteads should have few hangings of furniture, merely at the head; and feather-beds are too relaxing; the bedclothes should be well aired every day, and those who are disposed to perspire too freely during sleep should change their flannel under waistcoats for some lighter covering.

Exercise

It is no new thing to extol the virtues of exercise. Ferrandus, in the seventh century, calls it—a spur of a dull sleepy nature, the comforter of the members, cure of infirmity, death of diseases, destruction of all mischiefs and vices: and another author says, idleness enervates the frame, labour fortifies it; the first tends to produce premature old age, the last to perpetuate adolescence.

The amount of exertion should never exceed that healthy degree whereby a grateful sense of activity and comfort is produced; for otherwise exhaustion and much discomfort will ensue; it must be proportionate to, and kept within, the powers of the individual. The exercise should be taken daily, and, if feasible, in the open, dry air; and the invalid, who at first may be able to walk only a short distance, should not exceed that distance for some time, but augment it gradually and daily. In the case of females, the muscles should have full scope, and all ligatures —everything that presses upon or confines any part of the body, such as tight stays, &c. should be avoided. An anatomist informs us that Mademoiselle Leblanc, a young French milliner, remarkable for the fairy-like petitesse of her taille, died at Edinburgh, an early victim of consumption; and he found that those portions of the muscles in the belly, back, and loins, which had been subjected to the highly strained pressure of the corset during life, were reduced to the consistence of a soft and flaccid cellular tissue, faintly sheeted with muscular fibre. Yet notwithstanding the now generally acknowledged bad effects of tight stays, or of anything which impedes the free action of the muscles and the breathing, the practice will still continue with all those silly females who are ambitious to *appear wasp-waisted*; and parents should vigilantly guard *against it.* Even the infant, at its very entrance into life,

does not escape; for the nurse, in dressing it, bandages it up so tightly, as to compress its chest, prevent it from expanding properly, thus favouring the formation of the chicken-breast, in children predisposed to consumption and scrofula. Pressure, too, is sometimes unintentionally exercised in the case of rapidly growing girls, by their clothes becoming too small; wherefore they should be examined from time to time, or otherwise a pernicious habit is thus early originated, of first bearing, and then requiring, artificial pressure and support.

Creative Wisdom never intended that the mortality of children should be unavoidable, amounting, as it is said by some to do, to one-half of them, between birth and five years of age; and we may assuredly hope that, if mothers of all classes will but do their duty, and, instead of entrusting the rearing and care of their children to ignorant nurses and wet-nurses, attend to them in person, part of the above-stated ratio of mortality will be lessened.

Muscular exercise, it should be generally known, is as essential to the proper digestion of our food, as the food itself is to the maintenance of life; it strengthens the whole muscular system; it promotes digestion; it excites respiration; quickens the circulation; and maintains the due transmission of blood through every part of the vascular system, through even the minutest (the capillary); it assists the secretion of the bile; and, by its action on the muscles of the stomach, prevents congestions in the abdomen, which last are so especially troublesome and dangerous in the middle periods of life. Bodily exercise, in moderation, also tends to purify the blood, by enabling the lungs to throw out more carbonic acid gas than it does when the body is in a state of rest, for, during exercise, about one-third more carbonic acid gas is expired than during rest; and for about an hour after exercise, the volume of the air expired is increased about 118 cubic inches, and the quantity of carbonic acid about 7.8 cubic inches per minute.

As to the best hours for exercise, those before and after meals should be chosen. While the first part of digestion is going on we should rest, *not sleep;* but as soon as the chyle is entering the bloodvessels, exercise is salutary, and demanded by an instinctive desire for it; also between breakfast and dinner exercise *may* be freely taken, and the best *kind is that of walking; riding* on horseback is the

next to be chosen; but where walking can be performed, none other should be taken; two legs of the man are better than the four of the horse, and still better than the mere passively riding in a carriage; though many invalids, when in a state of convalescence, must begin with the last mode of passing through the air, until they become strong enough to walk. Riding on horseback is adapted for those who labour under defective action of the liver, or congestion in the abdomen (stomach).

Those who cannot yet leave their rooms may have their limbs, &c., shampooed, rubbed, or percussed, and then resort to dumb-bells, Hindostanee clubs, and the various gymnastic exercises.

The Secretions.

We now come to the consideration of one of the most important functions in the human body, for healthy secretions are at one and the same time the index or test, the cause, and the consequence of good health; since they, and they alone, depurate (purify) the blood, from which all the parts of the frame are deposited.

Dr. Cruveilhier says, we may regard the muscular system as a good hygeiometer or index of the general state of the individual; the muscular force of the heart giving us the measure of the state of the apparatuses of life, while the myotility (force of muscles) of the general muscular system gives us the measure of the condition of the brain; but as an index of health, comprising all the organs, we may safely conclude that a state of good health exists when the secretions are healthy, and rely more upon such indicators, than upon the force and vigour of the muscles.

In the process of nutrition, the current of blood not only deposits the materials, which are required for the renovation of the solid tissues; but also takes back the substances which are produced by the decay of these, and which are destined to be thrown off and out of the body. From the blood are secreted (separated) certain fluids—the salivary and gastric fluids, the bile, &c. Now these materials are secreted, for the purpose either of serving some ulterior office in the economy, or of being discharged from the body, as not only useless but pernicious, if they be allowed to remain, or are not separated in normal quantity from *the blood.*

All the parts of the body are wearing out by their own

action, the most firm and solid, as well as the most spongy and delicate, and, as above said, they are supplied with new materials from the current of the blood, and have their waste carried off by a corresponding process.

For this purpose two distinct sets of vessels are required, one by which the due recruit is provided, the other by which the refuse or rejected part is removed. These vessels are called secretory and absorbent vessels, and bear a relation to each other similar to that of the arteries and veins; the action which commences with the former is carried forward into the latter; and while the secretories originate from arteries (with one exception), the absorbents terminate in the veins. The refuse matter, or that which is no longer fit for use, is not all wasted, nor, in reality, is any of that which falls within the province of the absorbents. The absorbents may be described as vessels of small calibre, distributed throughout the body, and are divided into lacteal (milky) absorbents and lymphatic. The lacteal vessels commence on the inner surface of the intestines (bowels), run together on their walls, and form larger trunks, which converge and unite with each other, until they all converge and discharge their contents into a receptacle (of the chyle, as it is called) at a certain spot on the spine or backbone, having previously passed through some glands (called mesenteric, or midst-the-bowels glands), which number from a hundred and thirty to a hundred and fifty.

From this receptacle of the chyle, a tube or duct arises, called the thoracic duct, about 3 lines in diameter—and from 18 to 20 inches long—which duct passes up, diminishing in size, at one part, to two lines, inclining to the left, until it discharges its contents into a great vein at the top of the chest and near to the heart, and this vein bears its contents into the right side of the heart, thence to pass through the lungs to be acted on by the oxygen of the air we inspire, and to become arterial blood fit again for the nutrition of every part. The function of these lacteals is to take up the nutrient portion of the food, which is formed into a milky-looking fluid called chyle; and this chyle is all we obtain for nutrition from the quantities of food which are every day consumed. As it passes through the lacteal vessels, proceeding from the bowels and then *through glands, it is* obvious that, if through *irritation from scrofula, or from any* other cause, these vessels

or glands will not allow of a free passage to the chyle, the nourishment of the body must be impeded in proportion to the amount of obstruction. Hence the emaciation in atrophy or mesenteric disease, which is a disease or obstruction of these vessels and glands. If an animal is killed soon after eating, these lacteal absorbent vessels may be seen distended with the milky-looking chyle, for some hours after the meal.

The other kind of absorbents are called lymphatics; because they contain a clear, transparent, colourless, or pale yellow fluid, called lymph. They are distributed in all parts of the body where there are blood-vessels, and they are the means by which the several parts of the body are cleared of their waste and excrementitious materials, whether formed during growth or in common nutritive repair. The lymphatics are similar to the lacteals, and terminate in the same way; and the lacteals, during a fasting state, contain lymph, and not a lacteal fluid.

Nature divides these eliminated materials into two parts. One, consisting of those fluids, which by an intimate union with the newly-formed chyle, and a fresh mixing up in the lungs, may once more be adapted for the purposes of general circulation; and the other of those, which no elaboration can revive, and whose longer retention in the body would be mischievous. The province of the absorbent system is to take charge of the whole of the first office, to collect the effete matter from every quarter, and to pour it by numerous channels into the receptacle of the chyle; and then into the blood. The really waste and intractable matter, instead of disturbing the action of the absorbents, is at once thrown out of the general system by the mouths of the secreting vessels themselves, as in the case of insensible perspiration; or, where such a perpetual efflux would be inconvenient, is deposited in separate reservoirs, and suffered to accumulate till the individual has a commodious opportunity of evacuating them, as in the case of the urine and fæces.

Nature seems to have pointed out to us the necessity of getting rid of whatever superfluous carbon, nitrogen, &c., there may be in the blood, by the formation of several channels. The two main outlets are the lungs, in which, carbon is expelled under the form of carbonic acid gas, combined with *halitus, or watery* vapour; and the liver, which secretes

bile—which bile consists of 76 atoms of carbon, 66 of hydrogen, 22 of oxygen, 2 of nitrogen, and some sulphur.

There are three depurating organs:—the urinary, by which the blood is freed from nitrogen chiefly, in the shape of urea, consisting of 2 atoms of carbon, 2 of nitrogen, 2 of oxygen, and 4 of hydrogen; the skin which, by perspiration, throws off carbonic acid and water, with some oily matters: and the bowels, which is the outlet for that part of the bile not destined to be re-absorbed, and for that portion of the food, which has not been digested or which is indigestible.

Haller computed that 20 pounds of matter are removed from the human body every 24 hours by the different excreting organs, viz.:—4 pounds by the skin, 4 pounds by the lungs, 4 pounds by the kidneys, and 8 pounds by the bowels; the skin removing carbon and some hydrogen; the lungs, carbon largely with hydrogen; the liver, carbon and hydrogen; the kidneys, nitrogen with carbon; and the intestines removing the residue of food, &c. Dr. Dalton ascertained that he produced in the 24 hours, by breathing, 2lbs. 8oz. troy, of carbonic acid, containing 10¼oz. of carbon, avoirdupois, while ¼ of an oz. of carbon was exhaled through the skin. His daily consumption of food amounted to 91oz., and his excretions accounted for 84½oz., the remaining 6½oz. escaped by the respiration. Six pounds of matter entered the system daily, 5 pounds were water, 1 pound carbon and nitrogen—one-eighteenth passed off in the stools, one-half in urine, one-sixth of the remainder by the skin, five-sixths by the lungs.

Suppose the ingesta in 24 hours to be of food 6 pounds or 96 ounces, and of oxygen retained in the system 4 ounces—in all 100 ounces, it is estimated that the egesta (matters thrown out or carried away) will be in 24 hours: by the skin, 34 ounces; by the lungs, 17 ounces; by the bowels, 6 ounces; by the kidneys, 40 ounces; and by various other excretions, 3 ounces—in all 100 ounces. These calculations are offered only as approximations to the truth, and as referring rather to the relative than the positive quantities of matter excreted.

Bile is separated by the liver, from dark venous blood; which, passing through that gland on its way to the heart from the bowels, is thus purified from noxious matters,

consisting chiefly of carbon, before re-entering the circulation.

The purposes served by the secretion of bile are twofold—excrementitious and digestive. As an excrementitious substance, the bile is destined for the preparation of portions of carbon and hydrogen, that they may be removed from the blood—thus purifying the blood by excretion. In digestion, the manner in which the bile operates is not well known; it is, with some reason, believed to afford a natural stimulus to the bowels; for costiveness is common when the bile is deficient in the intestines, from 6 to 8oz. of which are poured into the bowels every 24 hours.

The chyme, into which the food is formed in the stomach, is acid, but in the small bowels, into which it next passes, it becomes alkaline; and, it is presumed, the bile furnishes this alkaline fluid which, when mixed with the acid of the chyme, neutralizes and renders it less irritating than it would otherwise be.

The stomach can bear much stronger acid than the bowels can; hence the irritation in the bowels from acidity, when a torpid action of the liver has prevented a due supply of bile from being poured into the bowel.

The fæces contain very little of the bile secreted, 8oz. of which are daily poured out of the bile ducts, probably not more than one-sixteenth part; and this portion includes only its colouring and some of its fatty matters, but none of its essential principle. All the biline is again absorbed from the bowels into the blood; but the elementary composition of biline shows such a predominance of carbon and hydrogen, that it cannot be appropriated to the nutrition of the tissues; wherefore it may be presumed that the carbon and hydrogen of this biline are expelled during expiration, in the shape of carbonic acid and water.

At least, this is the theory pretty generally received at present; but it sadly wants confirmation. A physiologist, M. Bernard, of Paris, recently says, the uses of the bile are two—one, to be thrown out, as above described; the other, to form sugar, which is kept in the system. If this latter hypothesis prove true, we may, ere long, learn more of the pathology of diabetes than we now know.

We see, then, that in health a balance is maintained *between the* secretion and destination of the bile; the *assimilation of* food; and the functions of respiration, that

the blood is freed from a certain quantity of carbon; that the bile is useful in the bowels; and that a certain portion of it, is re-absorbed into the system in such a way as to fit its carbon for union with the oxygen, which enters by the lungs; so that while heat is generated, the carbon, by taking the form of carbonic acid, is fitted for excretion by the lungs or skin.

These views of the bile, and its uses, may give us some insight into the causes of bilious disorders, and the means of avoiding them.

In the first place, if we introduce into the system a larger proportion of carbonaceous aliment than can be removed by the oxygen of the lungs, we shall have bilious attacks,—bilious sick headaches; or bilious cholera. In the second place, torpor or congestion of the liver may be the cause in operation—and, in the third, the gland may be active enough; but the blood does not afford sufficient material to work upon, whence arises a deficiency of bile; as may be at times observed in children.

To these three causes, or states, we must add the causes of jaundice. In this country the accumulation of the elements of bile in the blood, of carbon, we may say, arises either from eating too much carbonized food; such as fat, oils, sugar, and sweet things; or from too little exercise being taken, so that bile is not properly got rid of; or, in hot climates, bilious diseases may arise from the heated atmosphere not affording sufficient oxygen in respiration, or by its exciting the liver to secrete too much; or, lastly, the skin may not properly perform its important functions. Now much may be done to prevent bilious disorders, since sick headaches, and other forms of bilious disorders are, we have said, often directly traceable to errors in diet, both in quantity and quality; fats, melted butter, all kinds of pastry, meat, malt liquors or wine, should be avoided, or very sparingly taken by such persons, while exercise should be regularly taken to some extent. Females err in this latter respect, and indulge in too sedentary habits; and they would suffer more than they do, if nature did not help them, through, and by means of the monthly periods.

English cholera proceeds from too great heat in summer, and from too much carbon in the system; and when persons disposed to suffer from bilious attacks, complain of languor, sleepiness, headache, furred yellow tongue, loss

of appetite, with nausea, or vomiting, or bowel complaints, pain between the shoulders, high coloured urine, and their complexions are sallow; a dose or two of calomel, or blue pill, with a seidlitz or black draught in the morning, will often relieve, or, it may be, at once arrest, much suffering, by carrying away the redundant bile. If much debility or sinking attends, gentle support must be given.

In the reverse state, where the liver is torpid, carbon accumulates, and the digestion soon becomes impaired. Here the motions will be of a chalky or clay colour, and altered from their natural appearances. In the former case the liver is too full, and too much bile is formed; in this, too little. Here we must stimulate the liver by blue pill, small doses of calomel, or by grey powder, with mild aperients next morning. The diet should be nourishing and easy of digestion; plain meat, with a little weak brandy and water, or pale ale; no puddings, pastry, cheese, nor butter, and few, if any vegetables. Here dandelion, bitters, carbonate of potash, may be taken, and after them, some nitric acid, with the use of the nitro-muriatic acid lotion. Clysters are of use in all the kinds.

For the bilious state of children, before mentioned, a good nourishing diet and tonics, especially iron, are the remedies. Mercurials had better be avoided, as they weaken, and the object is to strengthen the system.

In warm or tropical climates, a different agent is at work in the production of liver or bilious disorders. Less carbon is expelled from the lungs in summer than in winter, at a high than at a low temperature: consequently, by exposure to great or long continued heat, as in hot summers, or in tropical climates, carbon is likely to accumulate. A part of this excess is removed by increased exhalation from the skin, and the skin is a chief outlet for hydrogen. Fat is composed of hydrogen and carbon, and if fat were plentifully formed, the excess of carbon could in that way be removed; but the hydrogen is taken away in the perspiration, and fat cannot be formed. The excessive carbon then finds its way, as the lungs cannot carry it off in sufficient quantities, under the form of carbonic acid gas, to the blood in a large vein, which supplies the liver with blood from which bile is secreted. Bile is *formed in* considerable quantity, the liver is stimulated to *act; hence the* bilious attacks and liver diseases of warm *countries.*

As to urine as a cause of disease, see Urinary Diseases.

And now we come to the important functions of the skin.

The Skin.—This is the organ of touch, of transpiration, and of absorption; besides which the extent of its surface has been estimated at 2500 square inches, all endowed with a power of regulating, to a certain extent, the temperature of the body, and of acting on the atmospheric air in contact with it. The daily secretion from it amounts to not less than thirty ounces—amounting even to forty in hot climates. If we examine the palm of one's hand, previously well washed, we may perceive "innumerable little ridges of equal bigness and distance, and running parallel one with the other; upon these ridges stand the pores, all in even rows, and of that magnitude as to be visible to every good eye without a glass, but being viewed with one, each pore looks like a little fountain, and the sweat may be seen to stand as clear as rock water, and as often as it is wiped off, to spring up within them again."

Mr. Wilson says, "Each little perspiratory tube, with its appended gland, is calculated to awaken very little idea of the importance of the system to which it belongs; but when the vast number of similar organs composing this system is considered, we are led to form some notions, however imperfect, of their probable influence on the health and comfort of the individual. The reality surpasses imagination, and almost belief. He says, to arrive at something like an estimate of the value of the perspiratory system in relation to the rest of the organism, I counted the perspiratory pores on the palm of the hand, and found 3528 on a square inch. Now each of these pores being the aperture of a little tube about a quarter of an inch long, it follows that in a square inch of skin on the palm of the hand, there exists a length of tube equal to 882 inches, or seventy-three and a half feet. Surely such an amount of drainage as seventy-three feet in every square inch of skin—assuming this to be the average for the whole body—is something wonderful, and the thought naturally intrudes itself, what if this drainage were obstructed? Could we need a stronger argument for enforcing attention to the skin?

"To obtain an estimate of the length of tube of the perspiratory *system of the surface of the* whole body, I think *that 2800 might be taken as a fair* average of the number of

pores in the square inch, and 700, consequently, of the number of inches in length. Now, the number of square inches, in a man of ordinary height and bulk, is 2500; the number of pores, therefore, 7 millions, and the number of inches of perspiratory tube, 1,750,000—that is, 145,833 feet or 48,600 yards, or nearly twenty-eight miles."

The proper management of such a vast army of respiratory organs is surely an object of the gravest importance; it is in fact a duty, the neglect of which is disease and death. Dirt and cold are the two great enemies to be dreaded; both check or suppress the perspiration, and throw back into the system many compounds noxious to animal life. The matters thrown off in perspiration are animal matters, gases, acids, alkalies, calcareous earth, metals, salts, and probably sulphur. The gases are the carbonic acid, which most abounds after a meal of vegetable food; and nitrogen, which is most largely given off after animal diet. The acids are the butyric, lactic, acetic, hydrochloric, phosphoric, and sulphuric. The alkalies are soda, potash, and ammonia—phosphate of lime, peroxide of iron, chloride of sodium, carbonate, phosphate, and sulphate of soda, chloride of potassium and acetate of potash, lactate and hydrochlorate of ammonia, and phosphate and carbonate of lime.

The peculiar, and often offensive, odour of perspiration is owing to its constituents, and to the exit of lactic and butyric acids. When these are not thrown off, they re-enter the system through the medium of the blood, and, when the individual is in vigorous health, the kidneys, liver, or the lungs, have double duty to do to separate these deleterious matters from the blood, but always at the expense of irregularity in the action of either, and frequently disease; so that it is easy to estimate the value of keeping up the natural perspiration, to do which cleanliness is indispensable.

In cold or temperate climates, persons of sedentary habits, who live well—too well, it may be said—would probably so accumulate carbon in their blood as to be poisoned by their own blood, and curtail their enjoyment of life, did not a source of protection arise in the formation of fat. Fat is composed essentially of carbon and hydrogen; it contains no nitrogen, and very little oxygen; and it is deposited *whenever an* excessive quantity of nutritive matter is poured *into the blood*, and especially when, at the same time,

the different secretions and excretions are diminished; under which circumstance the necessary quantities of hydrogen and carbon are likely to co-exist. The primary object of this deposition is to relieve the circulation of a load, which would embarrass, and ultimately stop the actions of life. It serves a secondary purpose, that of forming a storehouse of nutritive matter duly prepared for supplying the wants of the system whenever it shall be placed under circumstances in which the digestive organs can no longer receive food or convert it into chyle. Fat is deposited chiefly in those interstitial spaces of the body, where a soft but tenacious substance is required to obviate pressure, or to preserve symmetry. Fat is a bad conductor of heat, wherefore fat persons bear cold better than lean ones; and we all know the stores of fat to be found in whales and other animals living in very cold places. We cannot but admire how judiciously the deposit of fat is avoided in all parts of the body where it would interfere with the due performance of the function of the part—as in the joints—the eyelids—within the skull.

Fat may, however, be deposited in excess, from diseased action; but this subject will be discussed under the article Corpulence.

To keep the skin in a healthy state, in cold and variable climates, we must prevent sudden chills by warm and dry clothing at all times, but especially at that age which is particularly obnoxious to the attacks of consumption and scrofula; that period in the female's life which comprises the development of womanhood. During the earlier years of life (childhood and girlhood), care has probably been taken that the clothing shall have been sufficiently dry and warm, and, with respect to the feet, good warm stockings have in all probability, or ought to have, maintained a proper temperature, while the neck and chest have been protected from the vicissitudes of the weather by high clothing, thus preventing outward chilliness and inward congestion; but when the fair girl is entering into polished society, or coming out as it is called, the father-sin, pride, causes an alteration in all these matters—substitutes thin silk stockings for the comfortable and substantial woollen ones hitherto worn; and, to add to the mischief, a tight dress and low corsage are adopted as changeful fashion may order. The delicate being is further exposed to mischief from great and sudden changes of temperature,

passing, as she often must do, from the air of the heated ball-room at once to the cold wind of hall or street.

If parents thus sow the seeds of disease in their offspring, can we wonder that they reap the only fitting return—danger, and death? In the article, Consumption, a rather instructive instance will be given of death, at a school, caused by cold feet, &c., while practising at the piano. In addition to preventing sudden chills, by warm and dry clothing, we must keep the surface of the skin constantly clean and the pores open, by occasional warm or tepid baths, or by ablutions with friction while in the bath.

Whenever obstinately cold feet are complained of, and particularly as so often happens before going to bed, a warm iodine foot-bath should be tried every night, or every-second or third night. If they cause itching, it can be removed by a few grains of cyanide of potassium put into the bath.

Where baths cannot readily be had, the author orders children and others to be well cleaned with soap and flannel, while standing in a foot-bath, two or three times a week.

Those who have read the foregoing remarks on the structure and functions of the skin, as an organ to purify the blood, will require no further argument to enforce the necessity of keeping the skin clean—clear from all impurities—and its pores open, by means of baths, spongings, douches, &c.

General Baths.—These vary in temperature—

From	60 to	70°	Fahrenheit	constitutes the cold bath.
"	75 to	85°	"	" the temperate do.
"	85 to	96°	"	" the tepid do.
"	96 to	98°	"	" the warm do.
"	98 to	108°	"	" hot bath.

The vapour-bath produces effects equal to the—

	Not Breathed.	Breathed.
Tepid when the temperature is	96 to 106° —	96 to 100°
Warm "	is 106 to 126° —	100 to 110°
Hot "	is 120 to 160° —	110 to 130°

The cold bath, when ordered, should be used in the *open* air, and sea-bathing is to be preferred; but a plunging *bath of salt* water may easily be made artificially. *The bath should* be large, and the apartment airy.

The cold bath excites a glow, that is, reaction; and to be salutary, requires a certain portion of strength and vigour in the invalid, otherwise it will disagree, and do mischief instead of good. It is usually better not to bathe before breakfast, unless a previous short walk,—but not unto a state of perspiration,—shall have prepared the invalid; nor should the exercise be such as to cause a feeling of fatigue. After breakfast, the habit is generally fortified in a degree sufficient to ensure reaction. The head and trunk should first meet the water, and the bather should not stand still in the bath, nor should he stay longer than six to eight minutes. If, notwithstanding all precautions, the bather suffers from headache, chilliness, pale, shrunken skin, &c., instead of a general glow and feeling of comfort, after the bath, we may doubt whether the cold bath will ever agree. The temperate bath excites less shock and less reaction, wherefore it is better adapted for delicate individuals, and may be sometimes ordered by way of a preparation for the cold bath.

These baths should not be used by plethoric (full-blooded) persons, who have any tendency to bleeding at the nose, spitting of blood, or to apoplexy, or to affections of the heart, or chronic affections of the bowels of inflammatory kind. All delicate habits which are not likely to put forth a power of reaction, should avoid these baths. Some nervous patients may bathe, and not others; and during the fits of asthma, cold bathing often does much good.

The Tepid and Warm Baths.—For purposes of health, and to clear the skin, the tepid bath at 95° is serviceable; and noon is the best hour, after the process of the first digestion is over—brisk exercise in the open air, if the weather will permit, should be taken immediately afterwards. This tepid bath will be found refreshing after travelling, or after fatigue from long-continued muscular exertion. Travelling will often produce febrile irritation and nervous derangement, with dry skin, &c.; then the tepid or warm bath will do good, as either will also benefit the man of sedentary habits and hard study.

In all such cases, do not bathe soon after a meal, nor when excited by wine, nor when suffering still the heat of over-exercise, nor with the mind excited.

The warm bath is useful in many diseases; in convulsions; only cold should be applied to the forehead and temples,

while in the bath—in all spasmodic diseases, where there is no inflammation—in indigestion, either the tepid or warm bath is very beneficial; but in the indigestion of gout, or in gout itself in a plethoric habit, the warm bath may be dangerous—also in apoplexy; neither does the warm bath agree in all diseases of the skin; and it should not be ordered in persons of full, gross habit, nor in pregnancy, without great caution.

In managing warm bathing, we must keep up the original temperature of the bath, and should test by the thermometer every ten or fifteen minutes, adding hot water when requisite. No reliance ought to be placed on the feelings of the patient as to the temperature, for they will deceive; our only secure reliance is on the thermometer.

The patient may remain in the bath from 20 to 25 minutes. Warm and tepid bathing will act as a preventive or a curative agent, accordingly as it is employed. Some add salt to the water.

A simple warm bath was proposed, some years ago—to consist of a hammock of gutta percha, or of Macintosh, or India-rubber cloth; and this hammock can be extended upon two long poles, passed through a broad seam on each side of the hammock, and kept asunder by two cross pieces, which are attached to the poles by thumbscrews. At one end of the hammock is an air-pillow, which can be readily inflated. Below the hammock is a flexible tube, made of the same materials as the hammock, by which the water can be drawn off. The poles are to be fixed, and the open end of the flexible tube is to be twisted round one of the thumbscrews, and water may then be poured into the bath, after the bag now described, has been supported by folding tressels, or upon two chairs. This bath requires but little water, compared with other baths; it requires no sheet for the bather to rest upon; and after the bathing is over, the poles and folding tressels can be placed aside in a small closet, or dressing-room; and when dried, put into a drawer.

The Hot Bath.—This is a powerful stimulant; and as its object is to arouse the nervous energy, and the general vital action, the bather should not remain long enough in it to cause exhaustion. Ten to fifteen minutes is the average time to stay in it.

The Vapour Bath.—This is applicable to all cases for which the warm or tepid baths are taken. When it

is designed to excite perspiration, the vapour may be breathed; the extension of the heating influence to the lungs greatly promotes its influence and operation.

The vapour-bath used by the native of India is very simple and useful. The naked bather is seated in an arm-chair—if with a cane bottom, so much the better—and a large, deep, earthenware jar, or a bucket, filled with boiling water, is placed at his side; the body of the bather, the chair, and the water-vessel, are then enveloped with a blanket, which is thrown over his head when the vapour is to be breathed; or pinned under his chin, when the vapour is not to be breathed. The warm vapour soon envelopes the body, and a copious sweat follows. Two bricks should be in the fire, ready to be thrown into the water, to renew the evolution of the hot vapour, should it be necessary to protract the continuance of the patient in the bath. Friction may be added to the vapour.

The peculiar advantage of this vapour bath is, that it may be used in a sick room, without the risk of wetting the room, or rendering it damp; for, as the blanket involves both the bather and the hot-water vessel, it is folded up as soon as the operation is concluded, and carried out of the room.

For about twenty-five or thirty shillings, a very portable vapour bath, with India-rubber covering, instead of a blanket, may be had in Newgate-street, London, and, doubtless, elsewhere; and no traveller should leave for foreign countries without one.

The Shower Bath.—This at first causes a shock, and an uneasy feeling at the chest, which disappears the moment reaction has set in; the water used may, of course, be either tepid or cold. The cold is preferable when the powers are vigorous, and the person strong enough to cause an immediate reaction, sufficient to excite a glow on the surface; but the tepid, or even warm water, should be selected for the delicate or weak powers of body. A bottle of salt brine may be added, with good effect, to each bath.

When it is necessary or desirable to have a shower-bath every day, the trouble of filling the reservoir may be lessened by drawing off one bucket only of the bath every morning, and replacing it with another. If we wish to render it tepid, we can draw off a fourth part, or more or less, and pour in the same quantity of hot water, so as to

secure any degree of temperature, After each bath, brisk friction with the flesh-gloves may be enjoined.

The best time for using it is, for those not reduced by disease, immediately after rising in the morning; but in weakened habits, an hour after breakfast is preferable, for by that time the meal's first digestion will be over, and the body so invigorated by the meal, as to secure a greater certainty of the reaction.

The shower-baths made with curtains are not so unobjectionable as the old-fashioned wooden-cased ones; because, the curtains being wet every time the bath is used, the evaporation from them will create a dampness in the apartment. There should be no mixture of metals in shower-baths, for such soon begin to be destroyed by galvanic action, and to leak. There are various patterns of these kinds, for children and others, very small and portable, of reasonable price, and varying forms. The hair can always be protected, if desired, by an oil-skin or India-rubber cap.

A new portable shower-bath, called the "Ombrosome," is on sale by Howard & Co., of London.

Partial baths are the hip bath, foot bath, and the warm douche bath.

The *Hip Bath* exerts an influence over those organs which lie between the hip bones, viz.:—The bladder, the womb, the ovaries, and the lower bowel. The form of the hip bath is well known; but we must fill it only one-third full of water, otherwise it will overflow on the bather sitting down in it. When it is employed to soothe pain, the temperature should not exceed 90° of Fahrenheit, in which the bather should sit half-an-hour longer. When it is required to stimulate the womb to greater activity, namely, when the monthly secretion is deficient in quantity, or suppressed, or irregular, the heat should be as great as can be borne, and the time of remaining in it is fifteen minutes, —not more. The best time for using this kind of bath is the evening.

The Foot Bath.—This bath is to cause derivation—which means, that by its heating stimulating effects, it causes the blood to settle (for the time) in and under the feet, and so draw the blood from other parts; as in apoplexy, or threatenings of brain disorder, and in certain disorders of the *heart.* The water should be hot enough to redden the skin, *and the vessel should* be of such a shape and dimensions

as to permit the water to reach the knees. Cold applied to the forehead and temples, while the feet are in the hot water, helps powerfully. Salt and mustard are added often with good effect,—a tablespoonful of flour of mustard to each gallon of water. The legs and feet should be quickly wiped dry, and woollen stockings worn after the bath; or the bather should go to bed directly afterwards. When the foot bath is intended to assist perspiration, the legs should remain in it until the invalid feels faint.

In heart diseases, and some forms of asthma, it is recommended that a blanket should be thrown round both the bath and the patient, while cool free air is admitted to the rest of the body's surface.

In some diseases of the liver, torpor chiefly, the Nitro-muriatic Acid Foot Bath is very useful. To make it we add one ounce of each acid to every gallon of water; that is, two ounces of the nitro-muriatic acid to each gallon. The hands may be immersed in this medicated bath, if a greater effect is desired.

Sometimes a bilious diarrhœa may thus be excited.

Hot Douche Bath.—A very good one may be extemporized by pouring, from a height, hot water through a tea-kettle spout, or through a tube about an inch and a half in diameter, so as to cause the fluid to strike forcibly upon the part desired: whilst percussion may be employed at the same time, by means of an India-rubber bottle stuffed with wool, and affixed to a cane handle. In this way we can imitate the action of the natural douche baths of Aix, in Savoy, and some other continental watering-places, which combine the influence of heat and percussion. A temperature of 160° is readily borne in douching.

Patients who are suffering from deep-seated pains, or from chronic rheumatism, should be douched and percussed in this manner for half or three-quarters of an hour at a time, and they should afterwards be placed in bed between blankets, to encourage sweating. In stiff, enlarged, and painful joints, the greatest advantage has resulted from this douching; but it must be persevered in for two or three months, or longer, before the crutches can be laid aside. In certain cases of fevers, and in a state threatening inflammation of the brain, the cold douche is to be tried; the first effects are not pleasing, but relief is so quickly experienced, that the *patient generally* requests a repetition.

The Air-pump Vapour Bath will confer relief and benefit in cases of gout, rheumatism, contracted joints, and other chronic ailments, where the preceding have failed. This bath must possess considerable power as a remedy in obstinate cases, since it may stand in the place of a very efficacious fomentation, and dry cupping; it first conveys the soothing vapour to the part affected, and then, by exhausting the air, a vacuum is formed, or the atmospheric pressure is taken off, so far as to allow of a temporary expansion of the vessels, by which operations a probability is afforded of removing obstructions.

To recapitulate,—we should avoid cold bathing, when the habit of body is generally full; in diseases attended with discharges of blood, with quick pulse, and an excited system,—in all kinds of acute inflammation;—in diseases of the breast, attended with short dry coughs; difficulty of breathing—in gout and rheumatism;—in diseases of the skin—during a state of pregnancy—in palsy—and in many cases of indigestion—though in other cases of stomach disorders, where reaction soon follows the first shock, it may do good.

The Shower Bath (beginning with tepid water) is in most cases preferable to bathing in cold water; since the sudden contact of the water may be repeated or modified at pleasure; the head and chest are secured from danger by receiving the first shock of the water, and the blood propelled towards the legs, so that the head and chest feel comparatively light and unincumbered, while all the pressure of the water, which occurs in the cold bath, is taken off.

One caution with respect to cold bathing should here be given, and it applies also to drinking cold water as well. It is, that we may bathe fearlessly in cold water, although we may be unusually heated, provided the heat is steady and permanent. "Increased heat, whether from exercise or other causes, does not forbid a cold bath, provided the cause of the increased heat remain in action; that there is no local disease; and that the body *is not fatigued and fast losing its heat.* But if a person be already exhausted and weakened by exercise, if he be sweating and rapidly parting with his heat, and especially if the exercise be over, and he remain at rest immediately after, *and during the* application of the cold, then it becomes *highly perilous*, and likely to produce internal mischief."

The application of cold, then, is dangerous, not when the body is hot, but when the body is cooling after being heated.

In this way sudden deaths have been occasioned by men who have been working very hard, unto some exhaustion and great sweating, and who have suddenly drank large quantities of cold water.

When dangerous symptoms arise, either from bathing in cold water injudiciously, or from drinking cold water when heated and exhausted, the remedies are warmth immediately to the pit of the stomach and laudanum in free doses.

The wet-footed or wet-skinned sportsman need not fear danger so long as he continues in active exercise; nor need the bather, who has walked to the cold bath, wait till he cool, ere he plunges in; neither should the young lady, after heating herself by dancing for many hours of the night in the ball-room, wait in the hall to cool before she gets into her carriage, but let her go directly home and into bed as soon as she can; while the gentlemen, who are returning from balls or parties in a heated state, should not wait to get cool, but put on their great coats, and walk briskly home to bed.

"The heat which is preternaturally accumulated by exercise is held with little tenacity, is dissipated by profuse perspiration, and is speedily lost, when to this perspiration is added a state of rest after fatigue,"—under such circumstances cold is prejudicial.

The tepid bath is admissible and useful in almost all cases—during infancy, pregnancy, and especially old age. Women, who dread tedious and painful labours, should have a tepid bath three, four, or five months before their expected time. During puberty the tepid bath may be very useful; though it is not advisable to allow of sea-bathing for about two years during that period.

This tepid bath is of service in indigestion; in liver complaints; in debility and extreme weakness; in contractions of joints; and in skin diseases. From 10 to 1, p.m., that is, after breakfast, is the best time, and gentle exercise is to be taken after staying in the bath from twenty to sixty minutes.

The warm bath is employed in acute rheumatism, inflammation of the abdominal organs, of the kidney, bladder, and womb; in suppression of urine; in the convulsions

from teething and other causes; in skin diseases; slight palsy; green sickness; St. Vitus' dance; in convulsive and other spasmodic affections; in costiveness; intestinal obstruction; and in debility with nervous irritation. It agrees with weak, delicate, nervous women, who have suffered miscarriages from sexual weakness, &c.

When perspiration is to be elicited, the evening, ten minutes before going to bed, is the time for the bath. When not intended to excite perspiration, any time from an hour after breakfast till dinner will be proper, when fifteen to twenty minutes or thereabouts should be the time for staying in the bath; but this may be as the patient likes. Gentle exercise in the open air (if weather permit) should not be neglected after each bath.

The Vapour-bath is indicated where the warm bath is useful. It excites an increased action in the superficial arteries, and thus diminishes the blood in the interior of the body; wherefore it is of service in inflammatory fevers, inflamed bowels or stomach, in liver complaints, dropsy, in scrofula, gravel, palsy, and gout, as well as in rheumatic affections. Use it in the morning, or before dinner, for ten or fifteen minutes, or even double that time. In all cases of bathing, the body should be properly dried and rubbed.

We may here introduce a few observations on the system called Hydropathy; and the word, taken in its strict etymological acceptation, is apposite enough, for it means water diseases, or diseases caused by water. Some of the clearer-sighted of its advocates now call it the water-cure system.

The credulity and ignorance of the general mass of the public is in no instance more clearly exemplified than in its eager acceptance of any system of quackery which should be boldly put forward as infallible, and which possesses at the same time a few features of plausibility to argue upon.

To the words, credulity and ignorance, it may be objected, that the favourers of all the successive systems of quackery have not been confined to the low, poorer, and ignorant classes of mankind, but many of them have been men of intellectual eminence, and men both wealthy and *titled.* To style such persons ignorant seems startling and *indefensible; yet* all such persons are ignorant with respect *to medicine, and to* the sciences upon a knowledge of which

it is built up—an adequate acquaintance with which can only be acquired by many years' study of anatomy, physiology, pathology, and its cognates. The only remedy lies in opening the eyes of the public to the grossness of the delusions which, in matters relating to medicine, they practise upon themselves, or allow others to practise upon them. Surely it will be admitted that a knowledge of the nature of the disease under which a patient labours, is an indispensable preliminary to the safe and proper management of his case; and if in attempting to arrive at this knowledge so many sources of difficulty and fallacy await even the best informed medical practitioner—him, who is furnished with all the means of avoiding and overcoming them, which the accumulated experience of ages has been able to discover or invent, the prudent man may hesitate before he admits the belief that these difficulties can be overcome by persons of no scientific instruction, and who professedly reject all aid from the observations or experience of others; he may well pause to consider whether the discrimination of such a person can be with safety relied on—and whether the freedom of such a person from doubt or uncertainty in diagnosis may not arise from the rash presumptuousness of ignorance, rather than from the reasonable confidence which knowledge is calculated to inspire. Foster, in his Essays on Decision of Character, says, that a confident decision on any subject may arise, either from knowing all that is to be known of that subject, or from complete and total ignorance. In which category of the two we ought to place the presumptuous, unprincipled quack, hardly need be told.

The writer of these lines has seen the rise and fall of many a quackish medicine and system; and one of the first examples of the power of the imagination over the body, upon which the quack most relies for success, was afforded in reading the history of Perkins' Metallic Tractors. Dr. Haygarth was resolved to test the said tractors on some suitable case in the hospital which he attended; and, as a preliminary, he tested the natural temperature of the patient, by putting the bulb of the thermometer under the man's tongue; the latter, knowing the tractors were going to be tried, thought the thermometer was the tractor, and cried out immediately that his pain (rheumatic or neur*algic) was gone.* Upon this, Dr. Hay*garth continued to apply the* thermometer daily; while on

other patients, wooden tractors, made exactly like the metallic tractors in outward semblance, were tried, though there was no metal in them. The wooden and the metallic both acted alike—that is, similar effects were produced.

To the metallic tractors succeeded other systems of quackery, all enjoying more or less of patronage from certain classes for a time, until we arrive at these days of Morrison's pills, Vegetarianism, Homœopathy, and Hydropathy.

With respect to this last, there is no doubt but that, as an auxiliary to medical treatment, and under the superintendence of medical practitioners, it may yet take its place, and, with judicious management and restriction, may do much good; but the true hydropathist relies on water, and water alone, for the cure of all diseases—and thus many a credulous man, who can afford to pay well, will be made to drink water to excess, to live on a most wretched diet, in some cases; to be bandaged up like a mummy; and to be pumped upon till the breath is well nigh beaten out of him. Still, there were some cases in which good was no doubt effected; and can we not give a guess how such good may have arisen, or how it may be rationally accounted for? It is an undoubted fact, that however impatient sick persons are under the regimen and restrictions of diet imposed by the professionally educated adviser, they no sooner place themselves under the care of a quack, than the directions, as to diet, in quantity and quality, and as to other matters, are cheerfully submitted to. The author was told of a nobleman who consulted, many years ago, the most fashionable physician of his day. The nobleman had lost flesh, and complained of the usual symptoms of indigestion. When his doctor began to restrict the diet, the patient induced him to allow a diet almost as full as that he was used to—soup, fish, meat, game, and pastry. The patient getting no better, then applied to the then leading Homœopath. What did he do? He made him rise at half-past seven in the morning, instead of half-past ten or eleven, and take an early walk; he allowed him only a very restricted diet, with orders to avoid certain drinks, odours, &c. In a few weeks this nobleman's stomach recovered its powers, and he recovered his flesh. This was a cure, *said to have* been effected by the globules of homœopathy, *after the most* eminent physician of the day had failed.

Yet such a case wanted only Dr. Common Sense to prescribe, and no one else.

As a parallel case, and to show the good effects of exercise as an auxiliary to treatment by the mineral waters, the writer read of a patient who received the greatest possible benefit from some mineral waters; after a few years, he tried them again, but they totally failed, until he discovered that he had omitted the regulated exercise which had been ordered during his first visit. So shall we find it happens in hydropathy, that much of the good effected arises not so much from the water, as from the walks, the rides, the mountain scenery, to ascend which, as we have seen, requires blood-purifying exertions of the muscles, and in the case of the mind-shattered student, author, or merchant, from the mind having left its cares behind.

The water itself must do good, by cleansing the skin, by eliciting perspiration, and a healthy state of its pores; and when it is tried in proper cases, no objection can be raised against it. These restrictions would not suit the hydropathic enthusiast, who insists that his system will cure all diseases, if persevered in long enough. Such persons either do not, or will not, see, how very unreasonable and unphilosophic it is to make the skin an outlet for all diseases, when nature has established many outlets of secretion, as those who have read the preceding observations on secretion have seen.

In diseases of the liver, the chief outlet is through the bowels; in those of the kidneys, through the urine.

No hydropathist used to be contented with anything less than the appearance of an ill-conditioned eruption on the skin, which was looked upon as critical, and as a sign that the disease was thus thrown out of the system; but which, it is more likely, was really and truly a manifestation of the skin having been stimulated to the extent of disease, and of the blood having been at length put into a more watery condition than it should possess in health. For there is a law in the human animal economy, which has already been glanced at, namely, that one organ will often act vicariously (in place of another) for another. Thus, in hot climates, less carbon is abstracted from the blood during respiration, than would be consistent ultimately with health, and then both the skin and the liver act vicariously—*and copious* perspirations, with bilious

diarrhœas, keep the blood in a state of purity for a time; but in thus doing more duty than nature meant them to perform, their power of action becomes diminished, and disease is set up at last.

We should make use of the skin, then, as an auxiliary to our other means of treating diseases, but not as the sole dependence.

We will now give a short description of the mode in which the water is applied, mentioning some of the diseases in which the hydropathists recommend them to be used.

The means employed in the water-cure are—the Cold-bath, the Sudorific (sweating) process, the Shallow-bath, the Wet-sheet, the Sitz-bath, the Wet-bandage, the Douche, and the Foot-bath.

In the Sweating process, the patient is undressed and enveloped in a large blanket, the legs are stretched out, the arms kept close to the body—the blanket is then wound round the body as tight as possible, and turned under the feet; over this, another blanket or two should be wound round, and over all a small feather bed is placed—a counterpane and a sheet are spread over all. As soon as perspiration appears, the windows are opened, and a wine-glassful of cold water is allowed every half-hour, if desired. If the head begins to ache, a wet cloth should be applied to the forehead and temples. The cold bath is then taken, if the patient seems strong enough to secure reaction. The sweating process should precede the cold bath, for the perspiration relieves the internal parts from fulness, and the patient is then better able to support the shock of the cold bath. After all the baths, the patient is dried, not with towels, but by a sheet thrown round his body, drying the whole body at once.

The Shallow-bath is long enough to sit or lie down in, or to sit down in with legs extended, and should contain six or eight inches or more of water, and the water may be either tepid or cold, the tepid being preferable where there is local inflammation or fever, and the cold when there is general debility. Patients sit in this bath, and should be rubbed well all over, and cold water may also be poured on them. Few cases of debility will not be benefited by this remedy; and chronic inflammations will be either relieved or cured by it. The bath is to last *from one to ten* minutes, according to the judgment of the *prescriber.*

The Sitz-bath is our hip-bath; it is usually about eighteen inches in diameter, and contains about two gallons of water, cold or tepid. The patient should sit in it every day, or twice, or even thrice a day, for from ten to thirty minutes. It is of great benefit in disorders of the abdomen, head, or pelvis (hips). In weak bowels, torpid liver, in irregular periods, it should be tried. This and the foot-bath, relieve the head, remove congestions (partial fulness of vessels) and lower the pulse.

The Foot-bath is oblong and shallow, contains about two inches of water, or even one inch only, the time of sitting in the bath is about eight or ten minutes, and the feet should be rubbed in the bath, and rubbed dry afterwards, when a brisk half-hour's walk should be taken. This is useful for head affections, blood to the head, headache, eye diseases, and cold feet.

The Douche is prescribed to invigorate weak parts, and consists of a fall of water, from a height varying from twelve to eighteen feet, or more, and the stream should be about the thickness of a man's wrist. The undressed patient exposes one member or part of the body, then another, to the stream for two, three, or five minutes, taking care that the chest and head shall not receive the stream and shock.

The Splash-bath.—A small stool is placed in a shallow bath; upon this the patient sits, and is well splashed by the attendant.

Wet Spinal Friction.—The patient, undressed, stands, or sits upon a stool, upright in a bath, while the attendant rubs his back with a towel dipped every now and then in cold water. One or two minutes should not be exceeded in doing this.

Wet Friction.—Similar to the foregoing, only the towel is wrung dry, and the patient rubs the front, while the attendant rubs the back of his body for one, two, or more minutes, and the patient is then wrapped in the drying sheet, and dried.

Under-blanket Friction.—The patient lies down upon a mattress, covered by a single blanket; a second is thrown over him. The bathman dips a towel into cold water, wrings it out more or less, and having wrapped it round his hand and wrist, introduces his hand beneath the upper blanket, and rubs the patient's body, back and front, and the extremities, for from two to ten minutes. The towel

may be dipped into water as many times as may be deemed necessary. This is applicable to cases of debility, where exercise is impossible.

Wash Down—of three towels, as it is called. The patient stands in an empty tub or bath, beside which stands a pail of cold water, with two coarse towels soaking in it. The attendant places one of the towels on the patient's head, loaded as it is with water, who seizes it, and rubs himself rapidly with it over face, throat, shoulders, chest, body and legs, and lets it drop into the water, when the attendant, who has been doing in like manner with the patient's back, puts another charged towel on the head, and so on to a third. The patient is then rubbed in the drying-sheet, dressed, and sent out to walk.

Upstanding, Dripping or Rubbing Sheet.—The patient stands upon the floor, or in a tub or bath. A sheet of convenient size is then dipped in cold water, and as much of the loose sheet is wrung out of it, as will keep it from dripping at the bottom; this is thrown over the patient, head and all, from behind, like a cloak, and it should be long enough to reach down to the ankles, and wide enough to enable the patient to seize those loose parts of the sheet, which will hang in front, and use them as towels. With those loose portions of the sheet, the patient must actively and rapidly rub himself from his face to his feet; the attendant rubbing him well, meanwhile, behind, not with the folds of the sheet, but he rubs the sheet itself with his hand, as the sheet clings to the body, and without moving the sheet. This is done for two or three minutes, and then the dry sheet is put on, and the patient rubbed till he is dry.

This may be done in the recumbent position, while lying on a blanket, thrown over a mattress, where the patient is too weak to stand. Priessnitz used this in Asiatic cholera.

Can or Pail Douche.—These vessels, one or more, as ordered, are thrown over the patient suddenly, before and behind, and thrown with some force; then the drying-sheet.

The Douche, for one or two minutes, protecting the head with the hands, is very delightful.

Wet-sheet Packing.—This is said to be the crowning *glory of* the Water cure; and Dr. Johnson speaks of it as

a discovery which, before fifty years are past, will place its author in the world's estimation upon a par with the discoverers of vaccination, and of the circulation of the blood—and as a remedy which reduces inflammation as speedily as the lancet, but is followed by none of that debility which results from loss of blood—and as combining the soothing powers of opium with the tonic power of quinine, while it slowly extracts from the blood the poisons of gout and rheumatism. It is serviceable in both acute and chronic disease, and approaches nearer to a panacea than any drug or medicinal application.

The process is the following—place a pillow upon a mattress, and upon the mattress, and partly over the pillow, spread two blankets, upon the blankets lay a sheet which has been dipped in cold water, and then wrung out as dry as possible by two persons' strength. Upon this damp sheet the patient lies down undressed, with his head reposing on the pillow. The sheet is then folded tightly round the body, and the blankets are folded round the sheet. Then several blankets, one after the other, are laid upon the patient, and tucked well in on all sides around him, so that he lies completely incased, and not able to stir hand or foot. A linen napkin is interposed between the chin and the blankets to prevent irritation. Thus he is to lie for fifteen to thirty minutes, or even an hour; then he is taken out of the packing, and immediately submitted to the Shallow-bath, Dripping-sheet, Wash-down, or Pail Douche. Then the Drying-sheet is wrapped round him, and he is sent out to take exercise, or he is ordered to bed, according to circumstances. This is the Wet-sheet Packing.

The Blanket Packing is performed without any sheet, but the patient lies on a mattress covered by two blankets. There is some art required to cover the body with the blankets, by turning down the upper corner, under the chin, and tucking it over the opposite side of the body; then the rest of the blanket is brought over evenly and tucked under the opposite side, until the blanket is made to tuck in and under the feet and ankles. The opposite side is covered in like manner, and then a couple more blankets are put on. The windows may now be opened, and weak black tea given, if necessary; and if the head get uncomfortable, a wet towel may be applied to it. Perspiration will appear

sooner or later, but sometimes not before two, three, or four hours have elapsed. After the packing, some form of cold bath should be taken.

The Half Wet-sheet Packing, in which the sheet extends from the armpits to the knees, the arms not being included.

Front and Back Towel Packing is by means of a towel wrung out of a cold bath, applied to chest and back.

The Hot Air Bath, by means of a spirit lamp placed under a cane-bottomed chair or stool, on which the patient sits enveloped in blankets; but the Vapour Bath already described is more powerful, and is well adapted for the poor. By this latter, Dr. Johnson says, he has cured diseases which had defied all ordinary remedies, and which promised to embitter the whole future existence of the sufferers.

Then there are the Head Shallow Bath, the Head Douche, Head Plunge, Eye or Ear Shallow Bath, Eye Douche, Mouth Washing, the Running Sitz Bath, in which water is continually running in and out, the Fountain Sitz, where the patient sits upon a stool, with a central aperture, through which a jet of water rises; the Hand Shallow Bath, and Hand-full Bath, the Elbow, the Arm Shallow, Arm Plunge, and Arm Immersion, the Foot and Leg Shallow and Full Baths, the Leg Plunge and Leg Immersion, Local Douches, and Friction with wet hands, all which need no particular detail of directions.

These baths are employed to reduce heat and the quickness of the pulse, and to quiet nervous agitation. In fevers and inflammations the Wet-sheet packing is to be preferred; but in convulsions, and most other nervous affections, the shallow baths and its congeners are proper. A slow and gentle reaction follows the Wet-sheet packing, and this is preferable to a sudden one, in the treatment of fevers and inflammations: but the Shallow bath and affusion are appropriate to nervous affections, for the reason that renders them inappropriate in the treatment of fevers and inflammations.

The same author thus describes the effects of the Wet-sheet Packing: A considerable quantity of heat is at once abstracted, the person feels chilly, but in a short time the powers of the system reproduce an equivalent amount of heat, and a genial warmth. The action of the heart and arteries is depressed, a soft languor steals over the frame, and a disposition to sleep. This process, if unduly

prolonged, would be enervating and debilitating; but it is inexpressibly soothing and restorative in feverish and many other conditions of the system.

The Wet Bandages, or Umschlags, which, by-the-bye, are not peculiar to the hydropathic system, since they have been in use by the medical profession for centuries, are useful in most local complaints and in constipation. They are made of coarse linen of any convenient width, and are employed by the hydropathist in gout, rheumatism, ulcerations, swellings, sprains, and weakness of the limbs. They should be worn all day, and sometimes during the night. In active inflammation, the linen is dipped in the coldest water, wrung out, applied to the part, and taken away and replaced as soon as it becomes warm; but when there is no inflammation the wrung-out cloth is applied, and a dry bandage placed over it, so as to promote perspiration.

When we want to apply a bandage round the body, it should be three or four yards long, and twelve or thirteen inches broad, of which one yard is to be dipped in cold water, wrung out, and then laid over the stomach and bowels, the remaining yards being wound tightly over it, and tied on one side. In sprains, bruises, and in rheumatic and gouty joints, the wet bandage must be covered with a dry one.

The rationale of the beneficial effects of the water cure system, is based by the hydropathists upon the researches of Liebig. Into these we cannot enter for want of room, further than in a way of summary, extracted from a lecture delivered by Dr. Johnson.—A person in an average state of health, submitted for a minute and a half to that process which has been termed taking the Shallow bath, imparts to the water sufficient heat to raise a gallon of water thirty degrees Fahrenheit, that is, to raise a gallon of water from sixty to ninety degrees. Of course this quantity of heat is abstracted from the body, and must be replaced, and it is replaced; for the patient is actually warmer when he gets out, than he was when he got into the bath. Whence comes this newly generated heat? The heat of the body is produced in the same way as the heat of an ordinary fire, that is to say, animals are kept warm by a process of combustion, by the combustion (or oxydation) of very minute particles of their own bodies, and this combustion takes place throughout the whole

fabric. As fast as heat is abstracted, so is combustion increased by increased action of the vital powers. After a cold bath the fires burn more quickly, and an increased consumption of fuel occurs. Now the body itself supplies this fuel, and the body would consequently waste, if it were not repaired with equal rapidity, and the solids destroyed are thus replaced instantly from the blood which solidifies on the vacant spot. The fluid blood becomes reduced in quantity, but at the same time a sense of hunger and an augmented digestive power are developed, and an increased quantity of food is sought for, digested, and converted into healthy blood: so that the blood increases in volume, and the body becomes more bulky and more powerful.

The internal use of water has not been adverted to; but the drinking quantities of cold water has been practised for ages, and long before the water-cure system was talked of. It acts by diluting the blood; but many cannot drink cold water at all—it chills too much.

From this somewhat lengthened description of hydropathy, it will be conjectured that the author thinks much good may be derived from a judicious application of it, under men professionally educated; otherwise hydropathy may become an engine of mischief instead of an instrument of good.

One need not wonder at the opposition which the system first encountered, for it was said to perform cures almost miraculous; and the books first written on the subject were written in a tone of desperate exaggeration, of blind and obstinate one-sidedness, and evidently with an *ad captandum* object, which took advantage both of the *suppressio veri* and the *admissio falsi* (suppressing unfavourable truth, and admitting favourable falsehoods); whereas, in all our investigations our object should be truth, and not the defence of a system.

That it may be useful in many cases there can be no doubt; but those cases must be duly selected by men competent from their previous studies to form a correct judgment as to the nature of the case and the process which ought to be employed. Priessnitz certainly performed some extraordinary cures, but he very often failed to benefit his patients, because of his violent and extreme measures. Nor must we forget that his sanatorium, being *close to mountains*, was favourable to his success, by

affording air, exercise, and variety, to persons in a state of confident hope that they were about to be cured. Air, exercise, and variety, combined with early rising, a regulated diet, and the absence of ball-room parties and concerts, will always effect much good without any other help.

It is worthy of notice, that one of the advocates of hydropathy (Mr. Claridge), who was an early, a bitter, and an uncompromising opponent of doctors and of drugs, travelling over many places to promulge hydropathic doctrines, has himself been obliged to apply to one of the much-abused doctors, and, moreover, to take one of the decried drugs; and the writer was informed by a physician, now dead, that a celebrated baronet, who had written a very poetical eulogium on the water-cure treatment which he had undergone in a particular place, was obliged to, or did apply to him, very shortly afterwards, on account of the very same ailment which had been said or supposed to be cured by the water-cure system. In the latter instance, temporary good had probably been effected by mountain air, early rising, keeping the skin in order, and by having nothing exciting or disquieting to think of.

It is one great objection to the water-cure, that it is attainable by the wealthy and idle only; the poor man is precluded—first, because he has not the money necessary, and secondly, because he cannot spare the time necessary to effectually obey the directions, and to perform what is indispensable.

Food and Diet.

We have before said, that all vital action is accompanied by a certain expenditure of the various substances which compose the textures of the animal body, and which are found in the excretions of the body—the lungs carrying off a large proportion of the carbon and hydrogen; the kidneys almost the whole of the nitrogen, together with a large proportion of the inorganic salts; and the alvine evacuations contain a mixture of carbon, nitrogen, and inorganic matter. Food, therefore, is required of such nutritious character and in such quantity as will yield an amount of carbon, nitrogen, water, and inorganic salts, sufficient to repair the waste of the body. If this be not done, the *excretions (outgoings)* exceed the incomings, and *the person must lose flesh.*

But there are two vital processes going on which require supplies of suitable aliment for their support; the first is the one alluded to in the foregoing paragraphs, namely, the waste of the tissues; the other is the function of respiration, on the support of which depends the temperature of the body.

The first is accompanied by the expenditure of a great quantity of nitrogen, which is thrown out by the kidneys; the second, by a large consumption of carbon, which appears in the exhalations from the lungs.

Articles which are best suited for the repair of the tissues, abound in nitrogen, and are called nitrogenous articles of diet; those which supply material for respiration, and abound in carbon, are called non-nitrogenous articles of diet. Nitrogenized foods, or plastic elements of nutrition, are—vegetable fibrine, vegetable albumen, and caseine, animal flesh and blood.

Non-nitrogenized foods, or elements of respiration, are —fat, starch, gum, cane-sugar, grape-sugar, sugar-of-milk, pectine, bassorine, wine, beer, spirits.

The animal tissues contain nitrogen as one of their essential constituents. The non-nitrogenized foods alone are incapable of supporting animal life, since they cannot supply the animal tissues; wherefore, if these assertions be correct, it follows that the food of all animals must contain nitrogenized materials. It is easy to see how man can be nourished by the blood and the flesh of animals; that blood and that flesh are in all respects identical with their own. But those animals have been of the herbivorous and graminivorous kind; and as they ate no flesh, which contains the nitrogen, it was long an enigma how they obtained the nitrogen, whereof their muscles, &c. consisted. But the riddle has been solved with certainty by the discovery made by Baron Liebig, that all such parts of plants as serve for food to animals, contain certain constituents, which constitute nitrogenized forms of nutriment, called vegetable fibrine, vegetable albumen, and vegetable caseine. These constituents have been obtained from carbonic acid, water, and ammonia (that is, from the constituents of the atmosphere,) with the addition of sulphur, and of certain constituents of the crust of the earth.

These three vegetable constituents are identical with, *and resemble* in every respect their analogues, animal *fibrine, albumen*, and caseine. Albumen, of which we

have a familiar example in the white of the egg, is the form into which all the substances which contribute to the nutrition of the animal tissues or textures must be converted before they are absorbed. Albumen exists as a chief and characteristic ingredient in the fluid part of human blood; but it cannot be made use of as the material for the production of tissue, until it has undergone considerable alteration, by which fibrine is formed. This converted albumen, or fibrine, is not to be met with in the first products of digestion, but it is gradually formed at the expense of the albumen which these supply; and as the fibrine flows to every part, in and with the blood, and is deposited to form new textures, it is reformed from the albumen, which is elaborated from the food. Fibrine, then, is something intermediate between albumen and solid tissue; and it has been very appositely termed by the French, *chair coulante*, or liquid flesh. By the act of nutrition, it is converted into new fibres, new cells, &c., in connexion with those already or previously formed; and the waste, or dead matter, which is being constantly set free in the action of the several organs, is conveyed away. Part of this waste matter is got rid of by uniting with oxygen in the lungs during breathing, and is thrown out in the form of carbonic acid and water, whilst the other parts are got rid of by excretion, which separates the injurious substances from the blood, and pours them, in a fluid form, nto channels by which they are conveyed out of the body. The respiration, besides purifying the blood, introduces oxygen, and thus conduces to the maintenance of the animal temperature. Thus admirably have arrangements been made by the Omniscient Creator of all.

But we must now proceed to the cookery of food.

Foods possessing an organized texture, as animal flesh and amylaceous substances (starchy or farinaceous matters, as Iceland moss, tapioca, potato, arrow-root, bread-fruit, barley-meal, oatmeal, wheat flour, rye-meal, rice, peas, beans), require to be cooked, previous to use. The oyster is an exception, which is more digestible raw than cooked. Apples, pears, and some other fruits are also exceptions.

By salting, smoking, and pickling, the animal textures become harder and more indigestible; wherefore they become unfitted for dyspeptics, excepting only bacon, which occasionally proves more digestible than the fresh fat. Sausages, cured meats, and decayed animal sub-

stances, when kept too long, often act like poisons; we cannot, in our present knowledge, explain why, except by resorting to hypothesis.

Boiling is the operation best suited to the sick, the dyspeptic, and convalescent. In boiling vegetable matter, we effect the solution of the gummy and saccharine substances, and the expulsion of volatile oil, in part or altogether; and this last operation renders some vegetables milder, less irritating, and more nutritious, than if eaten raw, as in onions, leeks, garlic, shallots. By boiling, starch grains are ruptured and partially dissolved, rendering them more digestible; for the outer laminæ, or layers, of the starch grain are thicker, more cohesive, and less easily digested than the inner; the albuminous and fibrinous liquids are coagulated, as in the potato. It may here be remarked that the potato is a solanum, and contains solanine, a narcotic poison, in some parts of the plant; yet if any be contained in the potato itself, it must be destroyed by the heat in boiling, as in the cassava-root. Nauche asserts that the infusion or decoction of potatoes promotes the renal and biliary secretions, and affects the nervous system, which would seem to prove, if true, that the water in which potatoes are boiled, extracts or destroys some noxious matter.

In boiling meat, its fibrine becomes harder; which fibrine being insoluble in water, contributes nothing to the liquid. The albumen of the meat is partly solid, partly liquid; the latter is coagulated by the boiling water, and a portion of it is soluble, and contained in the broth.

The colouring matter of the blood colours the water, but forms flocculi ultimately, which float on the top as scum; the cellular tissue, the bones, and tendons, yield gelatine or jelly; the fatty matters melt and float on the top, unless inclosed in the cells of the meat; the nervous matter is carried off in part during the process.

Over-boiling proves injurious in some cases—as in eggs; an egg boiled so as to coagulate the white, or albumen, and leave the yolk fluid, is nutritive, and moderately easy of digestion; but a raw egg will cause diarrhœa often; wherefore, it has been given in jaundice and obstructed liver; and an over-boiled egg is very indigestible by most *people, and still* more so when fried in pancakes, fritters, *and omelettes.* Gelatinous foods are less digestible and

nutritious when overboiled. Leafy food, as greens, cabbage, &c., require to be well boiled, or they will be indigestible.

Roasting is the next best process of cooking for the invalid—it splits and renders soluble starch grains—it coagulates the vegetable albumen—it deprives flesh of part of its water—liquefies the fat, which partially escapes—it coagulates the albumen, and corrugates the fibrine. Roasting, as in boiling, does not effect any change in the nitrogenous part.

Roasted meat should be neither under nor overdone. The notion that underdone meat is most nourishing is an error, for the juice which is more abundant in the underdressed meat, is almost entirely aqueous, and can possess very slightly nutritive qualities. By prolonged roasting the water of the juice is evaporated, and the nutritive matter remains almost entirely in the cooked meat, the solid or dry matter of which is identical with that of raw meat. Well done meat has a little less both of fat and water than under dressed meat, and it is more digestible. Roasting differs from boiling, in not extracting the gelatine.

Broiling effects the same changes in meat as roasting, only more rapidly; it scorches the outside of meat, while the inside retains its juiciness; broiled meat, like roasted meat, is more savoury than boiled meat, though less fitted for very delicate stomachs; but, nevertheless, a well broiled mutton-chop cleared of fat and grease, is generally a most unobjectionable dish for the dyspeptic.

Baking is an objectionable process—its general effects are analogous to those of roasting and boiling; but meat so cooked is much impregnated with empyreumatic oil, and is therefore unfitted for delicate stomachs. Baked potatoes are less nutritive than boiled ones.

The dyspeptic must avoid all baked foods, except, perhaps, baked amylaceous puddings, such as puddings of sago, tapioca, arrow-root, and rice, &c.

Frying is the most objectionable of all the processes of cooking; fried foods being more indigestible by the invalid than when cooked by any other process. The influence of heat on fatty substances effects various chemical changes in them, whereby they are rendered more difficult of digestion, and more *obnoxious to the stomach*. The heat is *applied in the form or through the* medium of boiling oil

or fat. Now fixed oils give off, while boiling, carbonic acid, a little inflammable vapour, and an acrid volatile oil, and the fatty acids of the oils are in part set free. Cooked butter proves more obnoxious to the stomach than cooked olive oil, for probably the acrid volatile acids of the butter are, under the influence of the heat, set free.

The invalid, the convalescent, and the dyspeptic, must, therefore, avoid this method of cookery; and must abstain from the use of eggs, omelettes, pancakes, fritters, fish, livers, and other dishes cooked by frying.

Times of Eating.

The time required for the digestion of the food, by the healthy stomach, varies from one to three hours and a half, or thereabout; and after the stomach has been empty some time, a shorter or a longer time according to circumstances of age, exercise, &c., a desire for more food may arise, and until this hunger or desire for food arises, fresh food ought not to be introduced into the stomach, or we shall impair digestion in the end.

The length of interval between each meal must vary with the age. As for instance, children, whose organs of breathing are active, require to be more frequently fed than grown-up persons; so do persons who labour hard or take much exercise. A bird, with its active respiration, deprived of food dies on the third day; a serpent, with its sluggish breathing, can live without food three months or longer.

The carnivorous animals are better with only one meal every twenty-four hours.

Three meals a day are sufficient for man, though five are usually taken. Breakfast, dinner, and supper,—luncheon and tea are added in civilized life—and between two full meals, six or seven hours should intervene.

Breakfast is better taken very soon after rising, for in the morning the system is susceptible of morbific causes, and especially the delicate and invalid. An early breakfast of coffee has prevented the spread of fever in some regiments, and in bad climates. This should be the general rule, though there may be exceptions, where persons feel better for a good, brisk walk, before breakfasting.

The *Luncheon* is only admissible when the interval between breakfast and dinner is very prolonged, or when the food taken at breakfast is very trifling, as we so often see in

the case of ladies. With those who dine late, a luncheon, about four or five hours after breakfast, is both useful and necessary. It is a sort of light dinner.

Dinner should be taken five or six hours after breakfast; but if the breakfast has been very light, or the exercise great, food may be required sooner.

Tea, two or three hours after dinner, is an agreeable and refreshing meal; for by that time the food should have left the stomach, and the chyle should be entering the appropriate channels, when dilution is not only agreeable, but called for.

Supper is unnecessary to those who dine late; but to those who dine early, who take much exercise, or labour hard after dinner, supper is decidedly necessary.

At meals we should eat slowly, masticate thoroughly, and cease as soon as we feel satisfied; resolutely refusing to eat more. Our diet should not be too varied at one meal, for that leads to overburthening of the stomach; because the palate is stimulated, and the appetite provoked beyond its natural extent. After a full meal we should rest, but not sleep, for one or two hours, by which time the food will have been nearly all digested, and then moderate exercise is grateful and demanded by nature.

The quantity of food required depends upon varying circumstances—age, labour, &c.; but, on looking around us, how painful it is to observe that while many of the poorer classes of society are unable, in times of dearness and scarcity, to purchase food enough to keep them from a lingering starvation, or, as in Ireland, from a rapid process of starvation, we find thousands of the wealthier classes, who actually eat themselves into premature graves, especially in the City of London.

As schoolboys we have read of, and wondered at, the gluttony and extravagance of some of the Roman emperors. Of Vitellius, with his four huge daily meals, with his *vomitandi consuetudo* to enable him to eat the more. Yet, it is to be feared, that to a certain extent, and excepting the *consuetudo*, modern parallels might be found. "Such men seem, like moral incendiaries, so to ventilate the lamp of life, as to fire away part of their microcosm with destructive inflammation, while others replenish it sparingly with the oil of temperance, and to them the flame burns steadily, and shines to the end."

"It is not within the *compass of* human power to pro-

tract, in any sensible degree, the period of old age, properly so called—that is, the stage of decrepitude—'the sans teeth, sans eyes, sans taste, sans everything.' In this stage of existence, the physical changes that successively take place, clog, day by day, the vital machinery until it can no longer play. In a space of time, fixed within narrow limits, the flame of life must necessarily expire, for the processes that feed it fail. But though, when fully come, the term of old age cannot be extended, the coming of the time may be postponed. To the preceding stage an indefinite number of years may be added; and this is a fact of deepest interest to human nature." —*Dr. S. Smith.*

If we are to believe in the accuracy of Virey, the Englishman consumes more meat than the inhabitants of other civilized countries. "The annual consumption of meat for each inhabitant of Spain," says Virey, in his *Hygiene Philosophique*, "is 22lbs.: in France, 36lbs; in Paris, 86lbs.; in Great Britain, 92lbs.; and in London, 143lbs.!!!"

There is a disorder, caused by repletion, which abridges hundreds and hundreds of persons of many years of their lives, and hurries them into the grave just at the very time when they think they are beginning to enjoy life. The practical physician is continually meeting with such cases. The symptoms are at first insidious, and occur in persons who have passed their fortieth or forty-fifth year. They come to London, perhaps, from the country, in a state of perfect health and activity, but with nothing in their pockets; they engage in business, encounter competition, work hard, and attain success after some 20 or 25 years. Now they ride where they used to walk, they eat and sleep well, and take little exercise. The stomach becomes of aldermanic proportions, perhaps, and the great veins within it become literally gorged with blood. The progress to destruction is sometimes checked by some inflammation being set up, demanding bleeding, purging, and lowering; or piles bleed freely, and a fresh lease of life, though probably a short one, is obtained; the same destructive habits are renewed, and all at once a fatal attack of apoplexy occurs. These cases are those comprised under the recent term of the pendulous abdomen or belly.

The writer, some years ago, lost a friend in this way, *who was of* middle age, and of full plethoric habit. The *writer told him* that he must both eat less, and take more

exercise, or take physic, or be sick. The patient took purging physic, which seemed to give temporary relief. Then a violent inflammation of the leg occurred, which lowered him for a very considerable time, during which no physic was required. When he recovered, and the old enemy was re-appearing, one of his sons advised him, during the writer's absence, to consult an eminent physician, who had a crotchet about latent gout. The poor fellow was treated accordingly with tonics, &c., and not long afterwards the writer was summoned to his deathbed, for outraged nature could bear no more, and a fatal attack of apoplexy had supervened.

The writer also knew a gentleman, about fifty years of age, who on returning to England became, from certain circumstances, one of the lions of a London season, married a lady of a thousand a-year, and whose rank, together with his own celebrity, caused him to dine out nearly every day of his life. He was somewhat of a *bon vivant*, and he was soon cut off in the way just described,—dying, as a medical friend of the writer's said, of a thousand a-year.

Now, these instances are not related to terrify, but to warn; and many need the warning—ay, will continue to need it—and when any gentlemen, of the age and habits described, begin to find their stomachs bowing out—when in the morning they wake with thick, furred, yellow, or yellowish-brown tongues, the breath foul—when they feel a sort of nausea in their throats, which will hardly bear the touch of the tooth-brush a little too near the gullet without exciting vomiting—when the stools are irregular or too scanty—when to these slighter signs are added disturbed digestion with a full pulse; perhaps throbbing temples; perhaps giddiness and a flushed face—let them beware in time, and act accordingly; and, if they do, they may, indeed, have to check the gratification of their appetites, but, in return, they will probably live and enjoy life many years longer than they would otherwise have done.

Such persons should diminish the quantity of their food—should take two, three, or four active purgatives, at three or four days' interval, and should wear an abdominal belt; while they should take exercise pretty freely.

In such *cases as these, the wet* bandages—called by the *German hydropathists umschlags*—might be of service after

the fulness of the abdomen has been reduced sufficiently. But this preliminary is indispensable.

We will now advert cursorily to the digestibility of different articles of diet, which will bring under notice the nitrogenous and non-nitrogenous articles, or those destined to keep up the function of respiration and the animal temperature. Animal food is more easily digested, and contains a greater proportion of nutriment, in a given bulk, than does farinaceous or herbaceous food; but it is more heating and stimulating—Farinaceous food, as bread, rice, arrow-root, sago or gruel, is also rapidly assimilated, and proves less exciting than animal food; but it affords less stimulus to the muscular coat of the stomach, and causes less vascular action in the mucous coat, wherefore its long continued use impairs digestion, and weakens the stomach; while it at the same time becomes a very suitable food where irritation in the stomach exists. Milk is digested as easily almost as farinaceous food, and is nearly as unstimulating.

Other kinds of vegetables are slow in undergoing digestion, and their fibrous portion passes out of the stomach unchanged into the bowels, there causing irritation often; they excite less, but they support less, and they often give rise to much acidity and flatulency.

Liquid food.—Soup is slow of digestion, often gives rise to acidity, and hence is unfit for dyspeptics. The fluid part must be first absorbed; wherefore the author always advises soup to be taken with bread crumbs, thickly thrown in, or else the soup must be thickened with rice, &c.

The fat of the body may be introduced into the system ready formed, or it may be derived from the digestion of starch, sugar, and analogous substances.

Man is an omnivorous animal, and requires both animal and vegetable food. Several alimentary principles are found in both animal and vegetable foods; but the nutritive principles of animal food are intermixed with a smaller quantity of non-nutritive substances than those of vegetable.

Vegetable food requires for its digestion more time, and probably greater power of the gastric organs, than animal food, and it is more apt to create flatulency and acescency. The lactic acid, or milk acid, is the source of this acescency so troublesome to dyspeptics. This acid is so called because it exists in sour milk; and it is formed when various vege-

table substances become sour, as when oatmeal is left in a large quantity of water. The alimentary principles which yield it are sugar, dextrine (that is, starch gum), and gum, and all these substances consist, chemically, of two atoms of carbon with ten, eleven, twelve, or fourteen atoms of water; but in order to convert them into this acid, an organic nitrogenized substance, which has been modified by exposure to the air, is necessary. Its influence is a kind of ferment—Diastase, caseine, and animal membrane, (as that of the stomach,) when they have been exposed to the air, act as ferments. Thus sugary substances, and milk, produce lactic acid in a weak stomach; so will bread and beer, through the dextrine they possess. Oatmeal and the potato cause acescency by forming first, dextrine, then, lactic acid. Some of the fatty acids disagree often. The butyric acid from butter is very irritating. The facility with which butter becomes rancid depends on the presence of caseine, from which it is necessary to separate it if we want to preserve it; and this is done usually by fusion. New bread, rolls, fancy bread, cakes, rich plum cakes, and hot buttered toast should be prohibited. Good loaf bread, one day old, is the best; it may be toasted, and with even a little butter on it. When the ordinary loaf disagrees, an unfermented bread will often be of great service. It may be made in either of the two following ways: of wheaten flour, 7 lbs.; carbonate of soda, 350 to 500 grains; water, 2¾ pints; muriatic acid, from 420 to 560 drops, or enough—or this: flour, 1 lb.; sesquicarbonate of soda, 40 grains; cold water, half-pint, or enough; muriatic acid, 50 minims; powdered white sugar, a teaspoonful.

Mix well the soda, sugar, and flour, in a large basin, by means of a wooden spoon. Gradually add the water, with which the acid has been previously mixed, stirring constantly, so as to form an intimate mixture very speedily; divide into two loaves, and put them into a quick oven immediately. If any soda should escape the action of the acid, a yellow spot becomes visible, which is only unsightly.

Mouldy bread (bread covered with fungi) has proved injurious. Rich cakes owe their indigestibility to the butter or lard which they contain; but cakes may be made by the unfermented process like the bread. In this un-

fermented bread and cakes, there is a risk of the acetous fermentation, or of the decomposition of gluten.

All pastry is bad, from the injurious influence of heat on all oily, fatty substances,—butter especially.

As to puddings, the most digestible is one made with bread, biscuit, and boiled flour; batter pudding is not so easily digested, and suet pudding is highly objectionable, so are pancakes.

Of butcher's meat, mutton and beef stand first—boiled, roasted, or fried, and moderately well dressed. Young meats (lamb and veal) are less digestible and nutritive than the older meats. Pork is not to be eaten by the dyspeptic, though pickled pork and bacon may.

Venison is highly digestible, but it is also highly stimulating. Rabbit's flesh is light, and easy of digestion.

Of birds, the white-fleshed—such as the common fowl,—are best fitted for dyspeptics and invalids, because such meat is readily digestible, nutritious, and not too stimulating. They should be cooked by boiling, and eaten without melted butter. Game is richer and more stimulating,—as the pheasant and partridge. The duck and goose, and all whose flesh is permeated with fat, are more difficult of digestion.

The white fish (as the sole and whiting) are light and digestible, and are well adapted for invalids and convalescents; they should be boiled, and eaten without melted butter. The whiting has been called the chicken of the sea. Salmon, eels, herrings, sprats, &c., abound in oil, and are objectionable on that account. Cured fish of all kinds are to be avoided.

Shellfish, too, are difficult of digestion, and should be avoided, excepting oysters.

Mealy potatoes, if well boiled or steamed, are digestible readily; but the cabbage tribe are uncertain, proving, even when well cooked—which it should always be—very indigestible, causing flatulence, &c.

Peas and beans, especially when old, are difficult of digestion, and they may cause flatulence; the older the worse they are.

The walnut, filbert, the almond, contain oil, and are indigestible.

The grapes are the safest of the fleshy fruits; apples *and pears must be* roasted; ripe oranges are grateful and

ak tea or coffee may be allowed, but chocolate and should be forbidden, on account chiefly of the oil they contain.

liments should be sparingly used by the dyspeptic, y stimulate; and, if in excess, they will irritate the h.

ite, and especially in the United States of America, has sprung up, called the

VEGETARIANS,

rgue against the use of animal food in any form or ly, and in favour of the exclusive use of vegetable t, and water as the natural food of man. Many es have been published by them of restored and ed health having resulted from vegetable food -where, too, all other means had failed. But the ents in favour of exclusive vegetable diet are not on sound physiology. As usual, where one-sided are held, the most startling assertions have been without any proofs being adduced; and we are to believe what cannot be admitted. The vegetarian ite instances Hindoos, and others who undergo labour, while living solely on vegetables, and the ucv of such a diet to form a peaceable and inoffensive

table food, we cannot receive unsupported assertions, and must continue to believe that the mutton-and-beef-fed Englishman will, *cæteris paribus*, be found stronger than he who lives on vegetables solely; and in the case of the Hindoo, we must recollect that he is allowed milk, which is a highly nutritious animal product.

A mixed diet seems pointed out by nature as the one best adapted to maintain a healthy tone and vigour, and we would earnestly warn many well-meaning individuals not to allow themselves to be captivated by plausible arguments, for if they happen to be of weak, delicate habit, they may not, probably will not, escape scatheless from the trial. It cannot be doubted, that a change from an animal to a vegetable diet, has been of great service to some American citizens; and how has the benefit arisen? The habits of these gentlemen appear to be that of sitting down to the dinner-table exhausted with mental or bodily labour; they bolt down a copious and often luxurious meal as fast as they can, and then they hurry off to business again. Can any one wonder at the appearance of indigestion amongst them? An irritable or sub-inflammatory state of the stomach is induced; this state is attended with a sensation of gnawing or craving, which is mistaken for the return of hunger, and more food is taken instead of less. If such persons become vegetarians for awhile, and eat nothing but vegetable farinaceous food, the stomach is soothed, its irritability appeased, and the change of diet has done great good.

But let the pregnant female, who never transgresses either as to quantity or quality of her food, and who is of delicate habit, indulge this vegetarian crotchet, and, most likely, she will do mischief to her own constitution, and either kill her baby, or else see it brought into the world a very small and puny sickly thing.

We will now speak, in a summary way, of drinks, alcoholic and others. Beer, or malt liquor, is a refreshing, salubrious drink, and seems to enable men to undergo much bodily fatigue—though the teetotaller contends that the water drinker can do more than the beer drinker. Beer does not contain much nutriment; but its cheering action on the system must not be overlooked. It contains less alcohol than wine, but more nutritive matter, and *some bitter tonic* extractive from the hop. It should not *be drank by the* sedentary and inactive; in convalescence

it is often useful; but when the stomach is delicate, or the bowels relaxed, beer should be prohibited. Nor should the bilious or dyspeptic patient partake of it. In persons of full habit, and of apoplectic tendency, again, it should be avoided; also, when it causes headache.

Ales are richer in alcohol, sugar, and gum, than any other kind of malt liquor; but although they are more nutritive, they are not fitted for use on account of their intoxicating, stupefying qualities. On some persons they act as purgatives. The pale ale, or Indian pale ale, is superior, because, having been carefully fermented, it is dry, and it contains a double proportion of hops. Porter is better adapted for table use than strong ale, only it is, unfortunately, so strongly adulterated as to be rendered poisonous. Three pounds of cocculus indicus to every ten quarts of malt is the proportion of poisonous adulteration which used to be usual in the trade. Cocculus indicus gave porter its inebriating power; quassia, its bitter; grains of paradise and cayenne, its pungency; coriander and caraway, its flavour; liquorice, treacle, and honey, its colour and consistence; while a mixture of green vitriol, alum, and common salt, called beer heading, gave a fine frothy or cauliflower head to beer.

Wine.—In this term we will not include the fermented juice of fruits generally, as of gooseberries, currants, &c. &c., but we will restrict it to those wines which are obtained from the juice of the grape solely.

Every wine has a peculiar odour, called its bouquet or perfume, and which depends on the presence of some volatile principle generated during the process of vinous fermentation. The wines of warm climates possess no smell, says Liebig. Wines grown in France have it in a marked degree; but in wines from the Rhine the perfume is most intense. The kinds of grapes which on the Rhine ripen late, or hardly ever completely, have the strongest perfume or bouquet, and contain much tartaric acid. It is evident that the perfume of wines and their acid have some connexion; the acid influencing the bouquet.

Wines vary in the quantity of alcohol they contain; those which contain but little of it, are called light wines, as claret, sauterne, hock, Moselle. The more generous wines are Lessa, Port, Marsala, Madeira, and sherry. "The quantity of alcohol *in them is* modified by keeping them *in casks or bottles. Madeira* and sherry, kept for a

moderate term of years, become somewhat stronger, the sugar in them becoming slowly converted into alcohol, while tartar is deposited. When all the sugar has disappeared, the formation of alcohol ceases, and the wine diminishes in strength from this period, partly by evaporation of the spirit through the cask, and partly by its conversion into other substances, as acetic acid."

Some wines contain much sugar, as Tokay, Tent, Frontignac, Lusel, Rivesalte, Constantia, and Malmsey. The process of fermentation has been arrested in these wines before all the sugar was decomposed. In dry wines, as in sherry, all the sugar has been decomposed.

Wines contain acid, more or less—in old and spoiled wines, this acid is the acetic acid. In the brisk, frothing, sparkling, or effervescent wines, it is carbonic acid; in port it is tannic acid. Some contain cream of tartar, also colouring matter.

The tartar of wines is bitartrate of potash, or cream of tartar, and it is deposited from wine along with colouring and extractive matters, both in the cask and bottle, forming what has been called argol—the crust, the bee's wing—and the deposit augments with the formation of alcohol.

Beer differs from wine in containing less alcohol, but more nutritive matter, and, in addition, a bitter tonic extractive, derived from the hop.

Wine, moderately used (a couple of glasses, or three or four daily) proves a grateful stimulant; but it is a valuable restorative when the mind and body has been enfeebled or exhausted. It is fitted for those who live a life of activity, and not for the indolent and sedentary. Still, the most perfect health is compatible with total abstinence from wine; and it is far better to do without wine, except when wanted as a medicine, than it is to drink it, however moderately; because a habit is soon engendered. The abuse of wine brings on many disorders, which are too well known to require enumerating here.

Wine produces different effects on the system from those caused by spirits. Wine exerts a tonic influence; spirits do not. Wine stimulates more slowly, and the stimulus subsides more slowly, than in the case of spirits, wherefore wine is the better tonic for convalescents. Diseased liver and delirium tremens are caused by excess in spirit-drinking; *not so*, or very rarely so, in wine. But wine favours *gravel and gout*. Wine drinkers are fat, lusty, plethoric;

spirit drinkers are generally thin and emaciated. The intoxicating influence of wine is not equal to that of corresponding mixtures of spirits and water. Old wines are less intoxicating than new ones, because the alcoholic strength is lessened.

Sweet wines are improper for the dyspeptic, and also in some urinary diseases, as diabetes. Acid wines are improper for the gouty and rheumatic. Old wines are preferable to new. Good dry sherry is a good dietetical wine. Five kinds of sherry used to be quoted: very pale, pale, golden, brown, and very brown. Pale sherry was once the fashion, and the wine was nearly spoiled; for the wine growers, to meet the demand, made their wines before the grapes were ripe. The gouty, those troubled with uric acid (red deposit in their urine), or acidity of stomach, should drink sherry.

Port Wine.—Old Port is of a duller brown, paler tint than new Port, which has a more purplish, redder, deeper, and far brighter colour, and small silver dishes, with raised bottoms, are the tasters employed in the trade to show this colour. Port is more apt to disorder the head and stomach than sherry, and also to constipate the bowels. It is more resorted to when there are relaxed bowels; and it is supposed to be more strengthening than other wines.

Madeira is stronger and more acid than sherry. Brandy is usually added to it before it is shipped, and its voyage to the East Indies improves its quality by the heat and agitation during the voyage. This wine is well adapted for old persons and debilitated constitutions, and it is a very good wine for invalids, where its acidity is not likely to disagree.

Champagne is divided into the red or pink, and the white, also into the still and the sparkling. Of the still kind, the Sillery is the best; of the sparkling, the wine of Ay is preferred: and the demi-mousseux which only creams on the surface, is often preferred to the full-frothing, the grand-mousseux. The effervescence depends on an evolution of carbonic acid gas.

If carbonic acid gas be condensed into ordinary white wine, it usually renders the latter turbid, owing to the precipitation of the gliadine (gliadine is usually found combined with gluten, and is contained in the wine), but if we previously precipitate the gliadine, by adding tannin, the *turbidity may be prevented.*

Champagne exhilarates and quickly intoxicates, and it is diuretic. It is fitted for nervous people, depressed spirits, but it is apt to occasion headache. It is useful to allay vomiting; it is objectionable in gouty subjects. The German wines from the Rhine and the Moselle are light, and have a powerful bouquet; they contain tartrate of alumina and potash. The inferior kinds are naturally acid, not so the superior. These wines are extremely durable.

The Johannisberger stands at the head of the Rhine wines. Its flavour and perfume are very choice, and there is a total want of acidity. Steinberger, Rudesheimer, Hockheimer, &c., follow in rank. The term Hock (an abbreviation of Hockheimer) is applied to the first growths of the Rhine. The inferior Rhine wines are called Rhenish wines.

The Schartzberger is the most esteemed of the Moselle wines. The German wines, when of good quality, are light and wholesome; but are objectionable on account of their acidulous character. They prove diuretic and slightly aperient, and as they hold tartar in solution, Liebig asserts that crystals of uric acid are never deposited from the urine under their use.

Claret Wines come from the neighbourhood of Bordeaux. Lafitte, Latour, Château-Margaux, and Haut-Brion, are the different kinds. They are light and wholesome wines, though objectionable for those who suffer from gout, rheumatism, or indigestion.

Burgundy is a stimulant, and rather astringent; it is apt to occasion headache or indigestion.

Ardent Spirits.—The value of these is proportionate to the alcohol they contain. The spirit called proof spirit at present, by Sike's hydrometer, should have the specific gravity 0·920 at 60° of Fahrenheit; any heavier spirit is under proof, lighter is overproof. Formerly the proof of spirits was thus made—the spirit was poured upon gunpowder in a dish and inflamed. If at the end of the combustion the gunpowder took fire, the spirit was said to be above or over proof, but if the spirit contained much water, the powder was rendered so moist that it did not take fire; in this case, the spirit was below or under proof. But this mode of proof was open to errors, and proof spirit is now defined by Act of Parliament to be *such, that at the* temperature of 51° Fahr. thirteen volumes

of it weigh as much as twelve volumes of water, and such a spirit consists of

	By Weight.		Specific Gravity.
Alcohol	49	—	0.791
Water	51	—	1.000

Brandy.—The Cognac and Armagnac brandies are the best. Pale brandy has a brownish yellow tint; the high coloured is artificially coloured. Ten per cent. under proof is what is usually sold.

It is cordial and stomachic—relieves spasmodic pains, wind in stomach, checks vomiting, useful in some cases of indigestion, with pain after taking food. Warm brandy and water and nutmeg, and burnt brandy, are useful in diarrhœa.

The London Pharmacopœia has admitted an excellent restorative mixture in cases of typhus and putrid fevers, &c. It consists of brandy and cinnamon water,—four ounces of each, the yolks of two eggs, half an ounce of white sugar, and two drops of oil of cinnamon. Two or three table-spoonfuls in all cases of exhaustion from low fevers, floodings, discharges of blood, &c.

Rum.—General effects similar to those of brandy: but rum is considered more heating, more likely to cause sweating; wherefore it is often given in slight colds, coughs, and rheumatism. It has been found of great value when sailors and others have had to suffer privation and exhaustion. This is sold 10 per cent. under proof generally.

Gin.—Not allowed to be sent out stronger than 17 per cent. under proof; but is usually sold to the trade at 22 per cent. under proof.

Gin is powerfully diuretic, on account of its oil of Juniper: it is therefore given in dropsies, and also to promote menstruation.

Whisky is a corn spirit, and agrees with gin in most of its properties. The smell of burned turf, called peatreek, has of late been imitated by impregnating bad raw grain whisky with peat-smoke; so this is no longer prized as a criterion of good whisky. Highland whisky is often 11 per cent. over proof, and the whisky of the Lowland distillers is not considered so good as that of the Highland, because the former, the Lowland distillers, use porter yeast in their distilling.

Arrack, or Rack, has been called rice spirit, being distilled from fermented infusions of rice, or cocoa-nut toddy. Pine-apples steeped in it, give it an exquisite flavour, and by age, it becomes a delicious liqueur, unrivalled for making nectarial punch.

It possesses stimulating and narcotic properties, beyond other spirits. A mock arrack is made by dissolving twenty grains of benzoic acid in two pints of rum.

Of the various liqueurs, the Ratafias, the Crêmes, the Kirschwassers, Maraschino di Zara (from a peculiar cherry, the marasquin), the Curaçoa. The various British liqueurs need not be detailed, their specific gravity runs from 64 to 80 under proof.

We will now shortly advert to the question whether alcoholic drinks are permissible, or likely to be beneficial.

Alcohol has been classed among the elements of respiration; for when drank, it is absorbed, gets into the system, and is converted into the carbonic acid and water appearing in the expired breath. By its oxidation in the lungs, it must evolve calorie, and when used in moderation it serves to support the temperature of the body; and the Teetotal Societies have never discussed alcohol under this point of view. But though alcohol evolves heat in burning, it is an obnoxious fuel; its volatility, and the facility with which it permeates membranes and tissues, enable it to be rapidly absorbed, and when it gets into the blood it exerts on the brain and liver a most injurious operation before it is burnt in the lungs. By its combustion, heat is evolved; yet under certain circumstances, there are other better, safer, and less injurious combustibles to be burned in the vital lamp. Alcohol has been detected in both brain and liver of those who have died under its influence, and it doubtless exerts some topical action on these organs. The immediate prejudicial influence, spirits exert on the coats of the stomach, has been rendered visible in Dr. Beaumont's case of the wounded Canadian voyager, the coats of whose stomach, after drinking, showed diseased colour, patches of ulcers, and an inflammatory redness all over it; yet the man himself had no warning symptoms of such a state, which adds to the danger of such a case.

Where general health is perfect without alcoholic drinks, *they ought* never to be taken, for they are sure to cause *excitement,* and excitement is always followed by a corres-

ponding depression. Sir J. Richardson (the Arctic traveller) says spirits give a temporary stimulus, but they diminish the power of resisting cold. He says a Canadian with seven or eight pounds of beef or venison in his stomach, will resist the greatest degree of natural cold in the open air, and thinly clad too, if there be no strong wind. "We found on our northern journey that tea was much more refreshing than wine or spirits, which we soon ceased to care for, while the craving for tea increased." A cup of warm coffee, or a basin of hot soup, may answer the purpose of alcohol, and be more permanent in their effects. Many facts are now on record to show the advantage of discontinuing spirituous drinks, as well as of living without them under most of the circumstances of ordinary life. Still there are circumstances when wine or spirits may be advantageously taken, which may then be regarded as medicines, adapted for a temporary state; as for instance, when we have no means at hand of warming coffee, &c., and when chilliness is upon us, which, if unchecked, may lead on to the reaction of inflammation. Again, where the constitution or health is so deficient, or the exertions required by the mode of life are so great, that the system cannot be sustained in proper vigour without some additional stimulus. What would have become of the ship's crew of the *Bounty*, who were so long in an open boat without fire, and with scarcely any food at all, if they had not had some rum, which was doled out in tea-spoonfuls, and doubtless saved many of their lives? But when fermented liquors quicken the circulation, excite the mind, or disorder the digestive functions, they are evidently to be avoided, for they will be sure to do harm.

Many assert, that excessive use of spirituous liquors predisposes and has given rise to spontaneous combustion in the human body—that the textures in the bodies of habitual drunkards have become so universally imbued with inflammatory gases, that under certain circumstances the galvano-electric fluid in the body sets fire to the body, which burns away into an oily, greasy, tarry, fœtid, sooty ash—the sole remnant of what was once a living, moving being, the abode of mind, and the inclosure of a soul, which should be immortal. However much one might desire to warn the drunkard and deter him from his debasing habit of drinking, by pointing out to him the probability of a similar fate, and however poetical and awfully

deterring such a just retribution for the suicidal practice of habitual intoxication may appear, still we cannot do so with truth—for the cases of spontaneous combustion are not proved.

Spontaneous Combustion

of the human body was supposed to occur nearly one hundred and thirty years ago—in the year 1725—when the first recorded case took place. A miller's wife, at Rheims, was found burned in her kitchen; and all the remains left consisted of some parts of the head, the legs, and the vertebræ. The miller had a pretty servant-girl, and suspicion was aroused—a criminal inquiry instituted; but the man was acquitted on the ground of spontaneous combustion. Now, in those days, the true theory of combustion was not known, and the conditions necessary for continued combustion had not then been discovered.

Since that time, from forty-five to forty-eight cases have occurred, of which the great majority agree in the following points:—1. They took place in winter. 2. The victims were brandy drinkers, in a state of intoxication. 3. They happened where the rooms are heated by fires in open fireplaces, and by pans of glowing charcoal, in England, France, and Italy. In Germany and Russia, where rooms are heated by means of closed stoves, cases of death, ascribed to spontaneous combustion, are exceedingly rare. 4. It is admitted that no one has ever been present during the combustion. 5. None of the physicians who collected the cases, and attempted to explain them, has ever observed the process, or ascertained what preceded the combustion. 6. It has never been ascertained, invariably, how much of combustible matter was on the spot. And lastly, it is unknown how much time had elapsed from the commencement of the combustion to the time when the consumed body was found.

Flesh is not combustible, till dried; and then it is not combustible by itself like wood. Living flesh cannot burn; nor does steeping it in fat or spirits render it combustible; and all nitrogenous compounds are comparatively incombustible.

Some advocates have supposed the generation of phosphuretted hydrogen in the human body. Such a gas will *take fire instantly* on coming into mere contact with the *air; but* the presence of such a gas in the human body has

never been observed, either in health or disease, nor even in the putrefaction of dead bodies; and, moreover, the human body contains no phosphorus in such a state as to yield, by any process during life or after death, phosphuretted hydrogen gas. Besides, such a gas as this is poisonous as arsenic, and could not be present in the blood of any living animal.

The circulation of the blood in the living body renders its spontaneous combustion absolutely impossible. Dry animal substance, such as flesh, is not in itself difficult of combustion. Indeed, up to the charring point, it is easily combustible, as may be seen in a piece of horn, or in shavings of horn; and flesh *dried* behaves exactly as horn does. But all these tissues and textures become difficult of combustion in consequence of the water they contain in a fresh state, amounting in the flesh to 75 parts, and in the blood to 80 per cent.; and the water is contained as in a sponge with very fine pores. It cannot be heated beyond 212° of Fah., the boiling point, whereas, even fat requires a temperature of 800° of Fah. before it will burn. The accounts transmitted to us, have been at first from ignorant persons; and in their credulity and eagerness to substantiate the cases, they usually state that the body entirely disappears down to a greasy stain on the floor, and some remains of bones. This is impossible. The smallest bit of bone, in the fire, becomes white, and loses somewhat of its bulk; but of its weight, there remains from 60 to 64 per cent. of earthy matter, commonly retaining the form of the original bone.

Those who are interested in this question of spontaneous combustion had better read the familiar Letters on Chemistry, by Baron Liebig, from whose pages the above written statements are taken; and they may rest assured, that in all such cases, if the true evidence can be got at, it will probably be found that a man goes to bed drunk; and, in looking for anything under the bed, may leave his candle burning; or he may so leave it, that it sets fire to the curtains or coverings of his bed—the drunkard becomes asphyxiated, and soon lies a charred corpse. But if we wander into gaseous and electrical theories to account for what is simple enough, the wildest and most startling assertions must be swallowed, without an atom of proof.

We may *regret the loss of a terribly* warning example *to deter from drunkenness; but* quite enough remains to

deter any one from drinking, in the shape of the inward burning, which takes place from disease of the liver and stomach, and which deprives the unfortunate victim of drunkenness of all enjoyments of life.

Cookery for the Sick and Convalescent.

As to boiling, roasting, &c., something has already been said; but we may here add, that in boiling, much depends on the manner of conducting the process. If the boiling be too quick, the digestibility of the meat is diminished, the albuminous matter is coagulated, the flesh on the outside rendered hard, and the interior not sufficiently done. The water should scarcely be brought to the boiling temperature, but kept simmering. Every kind of meat for invalids, except poultry, should be put on the fire in cold water, and very slowly boiled.

Beef and mutton boiled in hard water is always more tender and juicy than when soft water is employed—the solvent properties of the water increasing probably with its density. Fish, however, is rendered firm in the ratio of the hardness of the water in which it is boiled. Fish boiled in sea water, or in water containing much salt, will be found firmer and finer flavoured than if boiled in soft water, or water without any salt added.

Vegetables require rain or soft water, adding some salt; they should always be well, indeed thoroughly, boiled in two waters.

Stewing is a good form of cookery for the convalescent and the invalid.

Baking is inadmissible, except certain puddings.

Roasted meat is more nutritive than boiled meat, if properly and exactly done; but it is less easily digested. Mutton loses one-fifth, and beef one-fourth of its weight by boiling; but both lose only one-sixth in roasting. Underdone roasted meat is not well adapted for weak stomachs, as we have before said; this is an error generally entertained. The digestibility of the meat is in the ratio of the softness of the fibre, and that property is increased by slow boiling.

Frying and broiling should be banished from sick-room cookery.

Cookery for the Sick-room.

This comprises farinaceous preparations; animal teas; *broths*; milk; and drinks

Farinaceous preparations are modifications of starch. They are not capable of conveying much nourishment into the habit; but being mild and devoid of stimulant properties they are well calculated for the sick.

Arrowroot Mucilage.—Rub a table-spoonful of the arrowroot powder, with a little cold water in a basin, by means of the back of a spoon, till it is well mixed, then pour boiling water over it till a soft, tenacious, gelatinous mucilage is formed; lastly, boil for five minutes. This quantity of the powder will make a pint. Sugar may be added, or lemon juice; but cinnamon powder, or any astringent, precipitates the starch, and destroys the smoothness of the mucilage. If wine is added, do not add port wine.

Tous les Mois.—A starch prepared from the tubers of a species of canna, in Peru. It is the same as arrowroot, and prepared in the same way. They both convey but a small quantity of nutriment into the system, and hence they are useful to satisfy prejudices, in affording the semblance of providing nourishment, when it is not wanted, or might prove injurious.

Mucilage of Sago.—Sago is the pith of palms and cycadeæ in tropical climates, as at Malacca. Pearl sago, the best, contains starch and some salt. An ounce, or a table-spoonful of it, should be placed in a pint of water in a pan, placed on the hob, or on a hot plate, for two hours; then boil for fifteen minutes, stirring well all the time. It may be sweetened with sugar, or flavoured with lemon juice: or milk may be added. It affords very little nourishment, and may be given to invalids labouring under acute diseases.

Tapioca Mucilage.—Tapioca is the pith of the roots of jatropha manihot, in Brazil, and is combined with a poisonous principle in the first state; yet is easily freed from it, by washing in cold water, after the roots are barked and crushed. The fecula is then dried and granulated. It resembles sago; but it is less coloured, and its grains are larger. The mucilage is prepared and flavoured in the same way as sago; only as it is more soluble than sago, it requires only half the time for maceration and boiling.

Infants, about the time of weaning, relish this tapioca more than anything, and it is less apt to become sour during digestion than even arrowroot or other farinaceous food.

Mucilage of Salep.—Salep is prepared from the bulb of the orchis mascula. It comes from the Levant and India, and consists of a gum termed bassorin and fecula. It is more nutritive than either arrowroot or sago, and is better adapted for the convalescent than the sick. The mucilage is prepared by dissolving the powdered salep in hot water, with assiduous stirring, and adding to the solution, sugar and milk. Salep and flour is said to make excellent bread.

Grit Gruel.—Wash well three ounces of grits (grits are oats freed from their cuticle or testa, and coarsely broken,) in cold water; pour off the fluid; put them into four pints of fresh water; boil slowly till reduced to one-half; strain the whole through a sieve, to separate the mucilage from the undissolved part of the grits.

Oatmeal Gruel.—Rub two ounces of oatmeal, free from mustiness, in a basin, in a small portion of a pint-and-a-half of soft water; pour off the fluid after the grosser particles have subsided, but whilst the milkiness still continues; and repeat this operation, till no more milkiness is communicated to the waters. Put the washings into a pan, stirring well, to suspend any fecula which may have subsided; and boil till a soft, thick mucilage is formed.

The gruel of grit and of oatmeal consist not only of the starch of the oat, but contain also a small proportion of gluten, wherefore they are more nutritious than any of the feculaceous mucilages. They may be sweetened or acidulated, or mixed with milk, according to circumstances. Some add butter and honey, which are inadmissible in inflammatory diseases. Gruels are convenient vehicles for clysters, as they are not so susceptible of precipitation by astringent vegetables or decoctions as the purer starches are.

Gruel is apt to ferment if kept longer than twenty-four hours.

Mucilage of Iceland Moss, or Jelly.—This contains a bitter, and if we wish to remove the bitter the dried lichen must be pounded, and soaked for twenty-four hours in tepid water, containing a small quantity of carbonate of soda, and forcibly pressing through a coarse cloth; if bitter still remain, repeat the process.

To make the jelly, put an ounce of the dried moss to a *quart of water,* slowly boiled down to one-half; strain

through a sieve; sweeten, acidulate, or add milk as you may desire. The bitter should be retained, if we wish to obtain the utmost possible good from the moss.

Carrageen, or Irish Moss.—This is a fucus. Boil an ounce in a pint-and-a-half of water; add sugar, acid, or milk, and the jelly is excellent to support the invalid's strength.

Mucilage of Rice.—Wash an ounce of good Carolina rice, and macerate it in a quart of tepid soft water for three hours, in a pan placed on a hob; then boil the whole slowly for an hour, and strain through a sieve.

Sugar, acid, or milk may be added as usual; and this forms an excellent diet in irritable conditions of the bowels, and in diarrhœa; but it is quite a mistake to suppose that it possesses any astringent property. An hundred millions of the inhabitants of this earth live upon rice; but they add milk to their diet. Rice is not very nutritious. Its soluble part is chiefly starch—85 in 100 parts,—there are 3½ per cent. of an animalized principle, and some phosphate of lime. The animalized matter furnishes whatever nutriment there may be in rice; but in the mucilage this animalized principle is not taken up.

Ground Rice Milk.—Rub a table-spoonful of ground rice smooth with a pint-and-a-half of milk; add half an ounce of candied lemon peel, cut into small pieces; boil for half-an-hour, and strain whilst the milk is hot.

This is an excellent nutritious beverage for the sick, when strict abstinence is not required. It is well adapted for early convalescence.

Simple Bread Panada.—Put any quantity of grated stale bread into water enough to form a moderately thick pulp; cover it up, and leave it to soak for an hour; then beat it up with two table-spoonfuls of milk, and a small portion of refined sugar; boil the whole for ten minutes, stirring all the time.

This is useful whenever strict abstinence is not enjoined,

Animal Preparations.

Hartshorn Jelly.—Cut 6oz. of hartshorn shavings into small pieces; boil them in 4 pints of water down to 2; strain, and add to the liquor, while hot, 2 table-spoonfuls of lemon juice, 6oz. of white sugar, and 2 glasses of sherry. This is good nutriment when wine is not for-

bidden. Or, instead of the acid and wine, milk in equal quantity may be added, and may be given, as a substitute for breast milk, to infants brought up by hand.

Beef Tea.—Cut half a pound of lean rumpsteak into thin slices; sprinkle a little salt over them, spread out in a hollow dish, and pour a pint of boiling water over them; cover the dish, and place it for an hour near the fire; then put the whole into a pan, cover it, and boil for a quarter of an hour; then strain through a sieve. The resulting beef-tea is very strong, and may be reduced by adding boiling water.

Chicken Tea.—Free a small chicken from fat and skin; divide it in two halves, longitudinally; remove lungs, liver, and all from backbone and ribs; then cut it, bones and muscles, into as thin slices as possible; put all into a pan with some salt, and pour a quart of boiling water over them; simmer slowly for 2 hours; put the pan on a hob for an hour, and strain.

Farinaceous additions may be made.

Veal Tea.—Made as beef-tea is. A pound of fillet of veal, freed from fat, and sliced; a pint-and-a-half of boiling water; and boil for half-an-hour. The fleshy part of the knuckle of veal will do instead of the fillet. Strain; the decoction becomes a jelly; and in small cups will keep for several days and may be used by adding an equal quantity of boiling water to a cupful of it at any time.

Mutton Tea.—A pound of mutton, freed from fat, and in slices, to a pint and a-half of boiling water; let it stand to macerate, then boil for half-an-hour, when it may be strained.

An ounce of good pearl barley, washed and macerated in boiling water for an hour, may be boiled with the mutton tea, and the undissolved barley separated by straining.

Turtle Soup.—Plain turtle soup, made from the green turtle, without wine or spices, is sold in pots, and wants only the addition of water to make a soup very nourishing and easy of digestion. It should be given only in small quantities at moderate intervals. Wine or brandy may be added, if demanded by circumstances.

Toast Water.—Toast to a brown, not to a black cinder colour, half a slice of a stale quartern loaf, put it into a jug, and pour a quart of water over it, which has been boiled and cooled; decant after two hours. Orange and lemon peel put in with the bread is a grateful addition.

Apple Tea, or Water.—Slice two large apples, not over ripe, and pour a pint of boiling water over them; after an hour, decant the liquid, and add sugar.

Lemon-peel Tea, or Water.—Pare the rind of one lemon, which has been previously rubbed with half an ounce of refined sugar; put both peelings and sugar into a jug, and pour over them a quart of boiling water. When cold, pour off the liquid, and add one table-spoonful of lemon juice; and a glass of sherry added, or instead of the lemon juice.

Orgeat.—Two ounces of sweet almonds, and four bitter almonds blanched, are to be beaten in a mortar with a little orange-flower water into a paste; rub this, with a pint of milk, diluted with a pint of water, until an emulsion is formed; strain and sweeten with sugar or capillaire.

Raspberry Vinegar Water.—This is diluted raspberry vinegar.

Lemonade.—Add the juice of two lemons to a quart of boiling water, having the rind of one of the lemons in it, in a covered jar; sweeten moderately with sugar or capillaire.

Barley Water—Simple.—Two ounces and a-half of pearl barley to four and a half pints of soft water; wash the barley with cold water, then pour upon it half a pint of water, and boil for fifteen minutes; throw this water away, then, having heated the remaining four pints, pour them upon the barley, and boil down to two pints, and strain.

Compound Barley Water.—To two pints of simple barley water, add two and a-half ounces of figs, sliced, five drachms of liquorice root, sliced and bruised, two and a-half ounces of raisins, and a pint of soft water; boil down to two pints, and strain.

These are good demulcents when blisters are troublesome, and in urinary disorders. An ounce of gum, added and dissolved, is a good addition when there is pain or difficulty in making water.

Simple barley water, with an equal quantity of milk and some sugar, is a good substitute for the breast milk.

Almond Emulsion.—Beat one ounce and a quarter of blanched sweet almonds, and five drachms of sugar, into a pulp, in a porcelain mortar, and add water gradually until a quart is added, then strain through linen. A good demulcent in fevers.

Marsh Mallow Tea.—Four ounces of dried roots of

the marsh mallow, two ounces raisins freed from the seeds, and five pints of boiling water. Boil slowly down to three pints; let the sediment subside; pour off the clear liquor. Useful in gravel diseases.

Linseed Tea.—One ounce of linseed, not bruised, two drachms of liquorice root, bruised, one pint of boiling soft water; place the jug containing these on the hob, covered, for four hours; strain through linen or calico.

The mucilage resides in the husks, and the fixed oil in the kernel of the linseed, wherefore the seeds ought not to be bruised.

When linseed is boiled, the fixed oil is extracted, and renders the decoction nauseous and unpleasant.

Useful in coughs; gravel disorders. It must be made daily, as it soon gets ropy and spoils.

Rennet Whey.—Infuse a moderate sized piece of rennet in a sufficient quantity of boiling water to extract the soluble matter; separate the fluid, stir a table-spoonful of it into three pints of milk, cover up with a clean cloth, and place it before the fire till it forms a uniform curd. Divide this curd with a spoon, and press it gently so as to separate the whey. Nutritive and diluent. Whey constitutes 92 parts in every 100 of milk.

Rennet is the inner membrane of the calf's stomach; it coagulates milk by a peculiar substance, called chymosine. The quantity of liquid rennet necessary to curdle 1000 grains of milk is only eight drops; but it requires a heat of 68° Fahrenheit, and its action is aided by the acidity of the rennet.

Vinegar and Tamarind Wheys.—A small wine-glassful of vinegar, sweetened with a dessert-spoonful of muscovado sugar, or else two table-spoonfuls of tamarinds, stirred into a pint of boiling milk; boil for fifteen minutes, and strain.

White Wine Whey.—Add to two-thirds of a pint of milk enough water to make up a pint. Take two glasses of sherry, or any other good white wine, and a dessert-spoonful of muscovado sugar, place the milk and the water in a deep pan upon the fire, and watching the moment when it boils, which is known by a scum rising to the edge of the pan, pour into it the wine and sugar, stirring assiduously while it continues to boil, for twelve or fifteen minutes; *strain the* whey through a sieve.

In low fevers, when wine is wanted in small quantities,

this is a good mode of administering it; it may be drunk cold or tepid in a wine-glassful at a time.

Mustard Whey.—Boil together half an ounce of bruised mustard seeds and one pint of milk; boil them together till the milk is curdled, then strain. Give a teacupful at a time in dropsy; it stimulates the kidneys and augments the urinary organs.

Artificial Goat's Milk.—Cut an ounce of fresh suet into small pieces; tie them in a muslin bag, large enough to hold the pieces without compression; boil this in a quart of cow's milk, sweetened with a quarter of an ounce of sugar-candy. This is useful in scrofula, in atrophy, in consumption, and for infants brought up by hand.

Artificial Asses' Milk.—Dissolve half-an-ounce of gelatine, by heat, in a quart of barley-water; add one ounce of refined sugar; pour into the mixture a pint of new milk, and beat up with a whisk. It should be drunk warm, and exercise taken after it.

Milk and Soda Water.—Heat, nearly to boiling, a teacupful of milk; dissolve in it a teaspoonful of refined sugar, put it into a large tumbler, and pour over it two-thirds of a bottle of soda-water.

Useful to give milk when there is acid in the stomach.

Buttermilk.—Put a quart of new milk into a half-gallon bottle; cork the bottle, and cover it with a towel in such a manner that, by drawing alternately each end of the towel, the bottle can be rolled upon a table. Open the bottle while rolling occasionally to admit air; when the butter has separated, pour off the milk. A nice cooling beverage in fever, or in states of excitement.

Sago Posset.—Boil two ounces of sago in a quart of water, till a mucilage is formed; then rub half-an-ounce of loaf-sugar on the rind of a lemon, and put it with a teaspoonful of tincture of ginger, into half-a-pint of sherry; add this to the mucilage, and boil for five minutes. An excellent cordial in debility, after acute diseases. Dose: a large wine-glassful every four or five hours.

Cookery for the Convalescent.

Boiled Flour and Milk.—Knead wheaten flour into a ball, with water, and tie firmly in a linen cloth; put it into a pan, with water, and boil for twelve hours. Place it before the fire to dry, and, on removing the cloth, separate a thick skin or rind which has formed, and again

dry the ball. A table-spoonful or more of this, grated, and boiled with a pint of milk, forms an excellent article of diet in convalescence from dysentery, diarrhœa, and emaciations.

Arrowroot Pudding.—Rub a table-spoonful of arrow root powder, with a little cold water, in the same way as in making the mucilage; and add to it, while constantly stirring, a pint of boiling milk with this mucilage; mix the contents of one egg, and two or three teaspoonfuls of powdered, refined sugar, previously beaten up together. Bake or boil this pudding in a basin.

A table-spoonful of Scotch orange marmalade may be added to this pudding, if desired.

Arrowroot Blancmange.— Make arrowroot mucilage with three times the quantity of the arrowroot powder; add milk in a moderate proportion; boil down to a sufficient thickness; pour it into a shape, and set; then turn it out. This may be eaten with currant-jelly, or with wine, or lemon-juice and sugar. It is sometimes eaten with cream, but cream is improper for convalescents.

Milk, or Beef-tea Arrowroot Mucilage.—Make, as in simple arrow root mucilage, except that beef-tea or milk-boiling is used instead of water; and the mucilage must be boiled twenty minutes, instead of five.

Flummery, or Sowans.—Rub a quart or any quantity of grits, or of oatmeal, with two quarts of hot water for some time; then leave the mixture for several days to get sour; then add another quart of hot water, and strain through a hair sieve. Leave the strained fluid to deposit a white sediment (the starch); pour off the supernatant water, and wash the sediment with cold water. The washed sediment may be boiled with fresh water, stirring all the time it is boiling, until a mucilage or jelly is formed; or it may be dried, and afterwards prepared as arrowroot mucilage is.

Flummery is light, very digestible, and moderately nutritious; and it may be eaten with milk, or wine, or lemon-juice, and sugar.

Oatmeal Porridge.—Sprinkle into a pint of water, kept boiling, small quantities of oatmeal, at short intervals, stirring all the time, until the mixture is thick enough; boil for another half-hour. Eaten with milk, this is *nutritious;* but it does not suit the dyspeptic, as it is apt *to prove acescent.*

Rice and Apples, or Snowballs.—Boil the rice in hot water rapidly; strain off the water through a colander; expose the rice for ten to fifteen minutes to the fire; and, having stewed the apples separately, mix the two with some sugar. This is more digestible than when a paste is formed. No butter should be added, and not much sugar.

Boiled Bread Pudding.—Grate half-a-pound of stale bread; pour a pint of hot milk over it, and leave it to soak for an hour in a covered basin; then beat up, with the yolks of two eggs; put the whole into a basin, tie over, and boil for half-an-hour. Salt or sugar, or a glass of sherry, may be taken with it.

Simple Rice Pudding.—Simmer two table-spoonfuls of Carolina rice in a pint-and-a-half of milk, till the rice is soft; add the contents of two eggs, with half-an-ounce of sugar. Bake for three-quarters of an hour in a slow oven. Two glasses of sherry are sometimes added.

Macaroni or Vermicelli Pudding.—Simmer two ounces of macaroni or of vermicelli, in a pint of milk and two ounces of cinnamon-water, till the macaroni is tender; then beat up the yolks of three eggs, the white of one, an ounce of sugar, one drop of the oil of bitter almonds, and a glass of sherry, in half-a-pint of milk. Add the mixture to the macaroni or vermicelli, and bake in a slow oven.

Batter Pudding.—Beat the yolks of two eggs with half an ounce of sugar, and mix them with a table-spoonful of wheaten flour and a pint of milk; put the pudding into a basin tied over, in boiling water.

Tapioca Pudding.—Beat the yolks of two eggs and half an ounce of sugar together, and stir the mixture into a pint of tapioca mucilage made with milk; bake in a slow oven.

Sago, arrow-root, or millet seed mucilage, may in like manner be made into puddings.

Mashed Carrots and Turnips.—Boil the carrots and turnips peeled, successively in three waters; press the water strongly out of them, through a clean, coarse cloth; mash them together with enough new milk to form a pulp, and season with salt; place them before the fire till the surface seems dry.

This is an admirable dish for convalescents, and one

they do not readily tire of when restricted to farinaceous vegetable diet.

Plain Boiled Vegetables. — All the cabbage tribe, turnips, carrots, and onions should be thoroughly boiled in two waters. If salt be added, and the boiling be brisk, in an uncovered vessel, the vegetables will retain their green colour.

Animal Preparations.

Rice, or Vermicelli, or Macaroni Soup.—Make a quart of beef-tea, as before ordered, and boil down one-third; then add an ounce of vermicelli, or 2oz. of macaroni, which have been previously well boiled in water, and boil down the whole to one pint; salt to taste, and add 5 grains of cayenne pepper to each pint. When rice is used instead of vermicelli, it should be put into boiling water, and boiled rapidly in a close vessel; then thrown into a colander and dried before the fire; it should not be boiled with the soup, but added after the concentration of the soup, in quantity to taste.

Chicken Broth.—Boil down chicken-tea one-half; add a little parsley or celery, and the yolk of an egg, previously beaten up in 2oz. of soft water; and rice, vermicelli, or macaroni may be added; and 3 or 4 grains of cayenne pepper.

Chicken Panada.—Take the white meat of the breast and wings of a boiled or roasted chicken, free it from skin, and cut into small morsels; pound these in a mortar with an equal quantity of stale bread, and some salt; adding, by little and little, either the water in which the chicken has been boiled, or some beef-tea, until the whole forms a thin fluid paste; lastly, put it into a pan and boil for ten minutes, stirring all the time. A similar panada may be made from the underside of a cold sirloin of roasted beef, or from a leg of cold roasted mutton. Either should be freed from skin or fat; and the gravy, kept until the fat is thrown in a cake and separated, may be added to it.

This panada is very nutritive for delicate children and convalescents.

Rice Gravy. — Take the gravy from a leg of roasted *mutton,* or a sirloin of beef; leave it at rest till the fat *forms a cake* on the surface; remove this, and stir into a

teacupful of it as much well-boiled rice as will serve for a meal.

Gloucester Jelly.—Take of rice, sago, pearl barley, and gelatine, of each 1oz.; simmer the whole in 3 pints of water till they are reduced to two, and strain, when cold; a strong jelly is formed, which may be dissolved in warm milk, or in beef-tea, or in hot water, and flavoured with wine and sugar.

Sago Milk.—Soak an ounce of sago in a pint of cold water for an hour; pour off this water; add a pint and a-half of good milk, and boil slowly until the sago is well incorporated with the milk.

Mutton Broth with Vegetables.—Put a pound of mutton chops, freed from fat, into a pan with 3 pints of water; boil them slowly, or simmer for 2 hours; peel and cut 3 moderate-sized carrots, and 3 turnips into dice, boil them for half an hour in a quart of water; then throw upon the colander to drain; and having boiled two onions, sliced, in a pint of water, and also poured off the water, add the turnips, carrots, and onions to the mutton liquor; after removing the mutton chops, season with salt and a little celery seed; simmer slowly for 4 hours; put in the chops again, and continue the simmering for another hour; the chops may be served up with the broth. This is a palatable and nutritive dish for convalescents. Owing to the slow simmering the mutton is rendered soluble, and of easy digestion.

Tripe.—This is very readily digested when properly cooked. After partially boiling it in the usual manner, and also, after boiling some onions in two waters, both should be slowly boiled together, until the tripe is soft and tender; salt and cayenne pepper may be added.

Sweetbread.—To be slowly boiled; eaten with salt and cayenne pepper. Well adapted for the convalescent.

Fowl with Rice.—Free a young fowl from fat and skin; and simmer it in good beef-tea till it is very tender; season with salt only; and having boiled some rice, as if for curry, add it to the liquor before the fowl is dished.

Watersouchy.—Boil 2 small fresh Thames flounders in a quart of water to one-third, or so as to reduce the flesh to a pulp; strain the liquor through a sieve, and having cut off the fins from 4 other small flounders, put them into the above-mentioned liquor, *with some salt* and cayenne pepper and *chopped parsley; and boil* just long enough to

render the fish proper to be eaten. The fish and sauce are to be eaten together. If flounders are not in season, soles, whitings, or haddocks may be prepared in the same manner. Very nutritive and easily digested, and much liked by convalescents and invalids. The yolks of one or two eggs might be added, previously beaten up with a little soft water, to the strained liquor, before the fish is put into it.

Broiled Whitings.—Broil the whitings, without freeing them from the skin; when done, take out the backbone, and put a little cold butter in its place.

The juices of the fish are thus retained. It is more nutritive.

Aromatic Barley Wine.—Boil a quart of barley-water down one-third; add to it, whilst still hot, a pint of sherry, a drachm of tincture of cinnamon, and an ounce of refined sugar. A wine-glassful two or three times a day.

Mulled Wine.—Infuse a quarter of an ounce of bruised cinnamon, half a nutmeg grated, ten bruised cloves in half a-pint of boiling water for an hour; strain, and add half an ounce of lump sugar, and pour the whole into a pint of hot port or sherry.

This is a useful cordial in typhus and low fevers; and in the debility of convalescence from fevers.

SECTION II.

Climate.

The climate of a district or a country depends upon its position in respect of the equator, upon its elevation above the level of the sea, and its nearness to the shores of the ocean or the beds of large rivers, upon the geological and mineralogical formations in the soil, upon the nature of the soil itself and its cultivation, and, lastly, upon the prevailing winds.

It would not suit the proposed limits of this book to discuss these points. We mean to consider, in a curative point of view, some or most of the localities to which invalids resort for change of air; and there can be no doubt that change of air and change of climate, when a judicious selection is made, are remedial agents of very great efficacy.

Two errors are to be avoided by the invalid in his choice of the locality; the one is, to go before the disorder under which he is labouring has advanced to a hopeless stage of progress, the other is to choose the site the best adapted to the peculiar circumstances of the case.

The first error is but too commonly committed, and many a patient has been sent away when his disease is too far advanced to admit of any hope of cure, and when nothing but additional discomfort and suffering are the results. The sufferer thus dies, far away from his family or friends, and all his home comforts. The second error has been very common in former years, but it is hoped that the information which in later years has been collected with great industry from many quarters, will enable any invalid to judge at once what locality will suit him best, and thus give him the power to put himself in the most favourable position.

We need not advert to the beneficial influence of travelling, more particularly in long continued irritation of the mucous membrane of the stomach and bowels, and in those affections *which have been* brought on by too concentrated attention having been paid to business or to

study. In such cases the mere relaxation from overstraining the mind, is sufficient alone to produce a restoration to health; only the traveller is not to hurry on his way, as if he were the bearer of important despatches, or wished to have it to boast that a great number of places had been visited in a short space of time.

To those who are labouring under the threatening or withering influence of tuberculous disease (consumption), the choice of the site, and the time of residence, are indeed of vital importance.

An equable climate seems to be the first desideratum, and a mild one the second, to which must be added protection from noxious winds, and violent atmospheric agitations; for in such equable, mild, and calm climates alone, can the pulmonary invalid safely take sufficient exercise in the open air. Taking in, as we do, with every breath of inspired air, a gaseous compound, it is of the utmost importance to the membrane lining the air passages, that that compound should be as pure and unirritating as possible; more especially when the membrane is in an irritable state. Air of too low a temperature is sure to excite coughing in such persons; wherefore, one great advantage in some of the warmer climates is derived from the higher temperature of the air, conjoined with the greater tendency to gentle perspiration which prevails in such localities. Exercise, too, can be enjoyed in the open air, without any danger. Atmospheres, which are warm and moist in various degrees, are almost invariably soothing to the throat and lungs; the degree of warmth must vary with each individual case; but when any one who is suffering from a very irritable or diseased state of the air passages breathes an air, which possesses the degree of warmth and moisture best suited to his state, the air passages are not robbed of warmth and moisture, which they cannot spare; and the hard, dry cough becomes a moist, easy one; thereby preventing the danger of any rupture of vessels, or of great congestion, from the violence of the cough; also, the thickened secretions of the lungs become softened, and they act no longer like irritating foreign bodies on the mucous surfaces. The air, too, is freely respired, since it does not irritate; all spasmodic contraction is prevented, and the air cells are always expanding to their normal *size, or nearly so*; and the heart's action, the digestive *functions,* and those of the whole system, participate in

the benefits arising from the more complete aeration of the blood.

But there is one great drawback in practice to this desirable state of things; it is, that atmospheres which are soothing enough to produce such results in cases of great irritability of the respiratory tubes and cells, must act prejudicially, by causing debility, if the whole of the invalid's body be exposed to or surrounded by them. This fact has been brought clearly before the public by the clever and talented inventor of the respirator, who says, that the air passages, when irritable, and the body generally, stand in need of very different and sometimes opposite climates, one that is of an adequate temperament for giving the utmost comfort to the former being destructively relaxing to the latter.

He asserts, that he has watched some persons in Bengal, whose lungs were most at ease in the warm and moist season; but such weather exhausted their strength, and their decline made rapid progress. Others have been sent to the West Indies, who have derived much comfort in moist, warm weather, but who were soon driven away by the debilitating effects on their system; and others have sunk under them. Many similar facts can be deponed to by medical men. Even in Italy, and the South of France, pulmonic invalids have breathed more easily than in England; though, even there, the air is not warm and moist enough to prevent much coughing, while it is still relaxing enough to be debilitating to many; thus proving prejudicial in two ways, by not affording protection enough to the lungs, and by relaxing too much the general system. Some such invalids have been sent to climates colder and more bracing than our own, and with good effects in some cases, for the tonic action on the whole frame has more than compensated for the irritating effect on the air passages caused by such cold atmospheres.

It must, however, be confessed, that few invalids could bear to breathe so cold an atmosphere; but if they were provided with the means of tempering the air, many an invalid might probably recover who now falls a victim to the destroyer. Even without the respirator some have recovered by the tonic influence of the bracing air, in the way before mentioned. How much more favourable would their chances become *if they carried* respirators about *with them, and learnt how to use them!—how to adapt the*

protecting power of the instrument to the exigencies and circumstances of each case! The respirator has been but too often rejected for want of knowing how to use it.

During the cessation of Parliament in London, many persons seek to get rid of their perhaps dyspeptic ailments, or to recruit their health, by a short residence abroad. As a general rule to such dyspeptics, they should select Rome for a residence, if their indigestion is of the acuter form; and Nice, if there is want of power without excitement. Of course, every one should have previously put himself under proper treatment to remove any attack of acute disease or irritation; otherwise, he will only leave his own country to be laid up at, perhaps, some wayside country inn.

In convalescence from bronchial affections (the air passages), Rome is a good winter and spring residence; and so is Pisa, except there are copious expectoration and a relaxed, weakened habit, then Nice is preferable; for Rome is little liable to high winds; the air is soft, and the country around is well adapted for riding; only he must avoid amateur visits to cold churches, &c.

Madeira is preferable to any part of the continent for dry bronchial irritations; and in this country, Torquay. But for those who are suffering under copious expectoration, or from a debilitated state of the digestive organs, the climates of Undercliff and Clifton are preferable. In asthma—pure nervous asthma—the climate of Rome or of Madeira would answer well. In the humid asthma, Nice. In cardiac or heart asthma, a sea voyage.

In gout and rheumatism, a mild climate is serviceable; only the diet is of chief consequence in the former. Great moderation in eating and drinking is indispensable in the latter. Nice and Rome are the best residences. If there is gastric irritation accompanying the rheumatism, which frequently happens, Rome is preferable. If there is merely a chronic, debilitated state, Nice is to be preferred.

It has been suggested, that removal in an early period of cancer to some climate where it is almost unknown, might prove beneficial to persons afflicted with that disease. To such, Egypt or Algeria offer the best residence. It is worth trial. The inhabitants of the northern *parts of Africa* are peculiarly exempt from cancerous complaints; but this may be connected in some way with a

low state of civilization; for wherever this prevails, cancer is particularly rare. Wherever social organization is of a higher kind, there cancer is common. Says Dr. Walshe, "There are two periods in the early life of delicate children, when a residence in the South of Europe is beneficial, namely, from the third or fourth to the tenth year; and about the age of puberty."

One or more winters in Southern Italy will improve the health of all those young children who suffer from colds and coughs on slight occasions in England; who are subject to chronic croup; to irritation of stomach and bowels, strumous or of any other kind; to indigestion; to scrofula in all its forms. The winter should be spent at Nice or Naples; the spring at Rome.

At puberty important changes take place in the human body, and if care have not been taken, if too much study have been permitted, irritability, or over excitement of the nervous system, with general debility, are very likely to lay the seeds of consumption. Here, a residence abroad, leaving all cares behind, will not only save or prolong life, but secure or lay a foundation for good health.

In all the foregoing cases, diet and regimen must be diligently attended to.

About the age of from fifty to sixty a great change takes place in the frame of man; it has been called the climacteric disease, or, in commoner words, "a breaking up of the constitution." Here, a change of residence and climate is likely to be very beneficial, and the individual will probably no longer lose flesh, suffer depression of spirits, and signs of indigestion, as he did before he left England; but it must be understood that business and all its anxieties must be given up, or change of climate will work but a trifling or a temporary good.

The south of Europe also affords a desirable residence to those who have lately returned from tropical climates with impaired constitutions; they should prepare themselves in that way for residing in England again.

Before an invalid leaves his native country, he should take care that all symptoms of active irritation have been subdued, for travelling is of itself a stimulant. He should travel leisurely, take care that the bowels are regular, which he *must secure by an occasional* lavement, or a pill *of extract of aloes, or of compound* extract of colocynth,

three or four grains of either, with a grain of extract of henbane. This at night, and a Seidlitz in the morning, with rest for that day, will keep the traveller in health probably.

A bath of from 94° to 97° of Fahrenheit every day before dinner, for twenty minutes, or half-an-hour, will be serviceable. If a bath is not to be procured every day, it must be taken when it can be got. It would be wise if each traveller were to take with him a portable vapour bath; he could then have a bath at any time. Such baths are now made very portable in Newgate-street, and in many other parts of London, no doubt.

As the traveller advances to the south, the system becomes more and more sensitive and excitable; the living must be modified accordingly. Fish, milk, and even vegetables are said to disagree in the south, while persons in England bear a diet which would prove too exciting in Italy.

The clothing in winter should be as warm in the south of Europe as in England, for the houses are relatively colder in Italy—even warmer clothing is sometimes necessary.

The invalid should leave England for Italy at one of two periods, early in June, and early in September. By setting out at the former period, the summer may be passed in Germany or Switzerland; by leaving England in September, the invalid may enjoy a mild climate to the place of his destination. The proper time for entering Italy is the end of September or beginning of October.

If Nice, or the South of France, have been selected for a residence, the departure may be a little later.

In travelling, do not be on the road too early, and always travel well clothed if the weather is chilly or cold; so that cold feet, and cold chills, may be effectually prevented.

Whatever locality the invalid may choose, he should provide himself with one of Mr. Jeffrey's respirators to protect him against sudden changes of temperature.

The climates of England are so varied that there are, perhaps, few diseases in which a place may not be selected as likely to prove remedial, as most of the vaunted sanitary *resorts* on the Continent and elsewhere. We will advert *shortly to* some of these English asyla for the invalid.

London.—Strange as it may seem, London possesses

some advantages, and delicate invalids on coming from the country to London, in the winter and spring, often experience considerable benefit. This probably results from the superior temperature of London, the mean annual temperature being 50° 39″; being one and a-half degree above that of the environs. The excess of this temperature is at its maximum in January, when it exceeds that of the environs by three degrees. This excess belongs strictly to the nights, which on an average are three degrees and seven-tenths above that of the country. London loses and acquires its heat more slowly than the country does; still we must not forget that the atmosphere of London is far from pure, and that it is loaded with smoke and dust.

Hastings.—Is one of the mildest and most sheltered winter residences on the south coast. It is protected from northerly winds by the cliffs; but south-westerly winds often prevail, and gales from the south are not uncommon. The superiority in winter of this locality is confined chiefly to January and December, for during these two months and the spring, it is sheltered from the north and north-east winds.

There is a scarcity of sheltered rides at this place. During the summer the invalid should reside in more open and elevated spots, provided they are also sheltered.

St. Leonard's possesses a good esplanade, and the sea atmosphere is circulated more freely than at Hastings, and the cliffs being lower, cold draughts, and counter currents of wind from above, are less experienced. Walking exercise may be taken under the colonnades.

From November to the end of February, an invalid may stay at Hastings and St. Leonard's, says Dr. Harwood.

Ague, it appears, is not unfrequent in the neighbourhood of Hastings, yet Dr. Harwood has never seen a visitant attacked with it.

The Vale of Ginseng, between Hastings and St. Leonard's, is protected in a considerable degree from the south-west gales, and from the north-easterly winds, by the rising grounds on either side.

Brighton.—Is preferable in autumn and the early part of winter to Hastings, for the climate is then milder and more steady. In spring the climate is cold, and irritating to invalids, owing to its exposure to the north-east winds. All constitutions marked by a deficiency of red blood and de-

bility, and all states requiring the use of iron as a tonic, all who require bracing, and all relaxed nervous invalids, will probably receive benefit from a Brighton residence. It is well adapted for children and young persons, for those labouring under chronic bronchitis, humoral asthma, and indigestion with debility; but all who are subjected to irritative indigestion, whose skins are dry, will not find Brighton to agree with them. After leaving Brighton, the invalid should go to Undercliff, Hastings, Bournemouth, or Torquay.

Undercliff, in the Isle of Wight.—Is protected from all northerly winds, and partly from the south-west. The eastern portion is to be preferred. The climate is dry, somewhat sharp and bracing. The best season is from October or November to the end of May, and there is no place on the south-west coast equal to Undercliff. An invalid might reside here until August; after that month the air is relaxing, and has a depressing effect on invalids.

Niton is on the western extremity of the Undercliff, but out of its limits. This is a pleasant summer residence.

Cowes.—The advantage is the facility for boating. Sandown is well spoken of by those invalids who have reported to the writer. It is well suited for sea-bathing.

Ryde is a very pleasant summer residence with pleasant neighbourhood.

Bournemouth, on the coast of Hampshire, opposite nearly to the western end of the Isle of Wight, is an increasing place. It is protected from the north and the east, and the beach affords ground for exercise, walking, riding on horseback, and for carriages; it is, however, exposed to the south-westerly gales. It is less relaxing than Torquay, and will suit those who can take exercise in the open air. During summer the fine sand rises, and the place becomes disagreeable.

About two miles to the west of Bournemouth is Branksome and Branksome Vale, which seems well adapted for winter residences for invalids, says Sir J. Clarke, who is the great, if not the sole authority, on matters regarding climate.

South Coast of Devon.—The winter temperature is two degrees higher than that of the Sussex coast and that of *Hampshire*, and five degrees higher than that of London. *Salcombe*, Torquay, Dawlish, Exmouth, Salterton, Sidmouth, *Kingswear*, (near Dartmouth), Lympstone, (two

miles from Exmouth), Bishopsteignton, and Upton, all pleasant spots, more or less sheltered, are near to the coast, and protected from the southerly gales.

Near Exeter favourable residences might be found.

Salcombe is the Montpellier of Huxham, the warmest spot on the south-west coast, but its climate is too limited, and there is no sheltered ground for exercise—a great defect. The orange and lemon thrive here, and ripen their fruit in the open air.

Torquay, a great resort for the consumptive, is drier than the rest of the places on the south-west coast, which are soft and humid. Torquay is free from fogs, and protected from the north-east winds—the great evil in spring. Rides in the neighbourhood abound; and just beyond the village of Tor, is the little vale of Upton, a most desirable site for establishing a Madeira village, by building houses along the base of the boundary hills, and draining, laying out, &c., the intervening space for exercise.

Dawlish.—Well protected from northerly winds and south-westerly gales; but not so from the east winds. The town near the beach is much exposed to easterly winds, and is unsuited as a spring residence.

Exmouth.—Not suited for consumptive persons, or for chest complaints—exposed to almost every wind, and to damp. It is a bracing residence for other invalids than the consumptive.

Salterton.—Lies four miles to the eastward of Exmouth—a better winter abode; but there is a want of sheltered ground for exercise.

Sidmouth.—Protected towards the north by lofty elms and other trees. This place is well calculated for a summer and autumn bathing-place; only the more sheltered parts must be chosen.

All these places on the south-west coast are best adapted for the consumptive. There they can obtain more exercise in the open air than elsewhere; and if in southern Europe the invalid has finer days, a drier air, and more constant weather, he meets on the other hand with more considerable transitions of temperature, and is exposed to greater cold during the nights, from the want of proper arrangements of the houses, chimneys, &c.

In dry coughs, the south-west coast will do good. When there is copious expectoration, and a languid, relaxed constitution, a residence is likely to aggravate and do

mischief rather than good. It is beneficial in irritative indigestion, also in difficult menstruation; but in all nervous complaints with relaxed habit and want of tone, in all nervous headaches, and the indigestion of debility, a more bracing climate must be sought.

Profuse periods, white discharges, and all diseases attended with discharges and relaxation, will not be benefited by a residence on the south-west coast; but the reverse may result.

Some reside at Torquay about three months, or even the whole winter and spring seasons. Others cannot stay longer than four or five weeks; for, as soon as the soothing and relaxing effects have been obtained, a drier and more bracing air should be sought.

Invalids should leave during the summer for a drier, more bracing locality, somewhere inland.

Penzance.—Is not sheltered from any wind; but the mean annual temperature is 51·80, being only 1·41 above that of London. It is, however, nearly 5° warmer in winter, 2° colder in summer, scarcely 1° warmer in the spring, and only about 2° in the autumn.

In spring, Penzance loses its superiority of climate; in April and May, it is decidedly inferior to that of the sheltered spots on the south coast of Devon, and to Undercliff. Twice as much rain falls here as at London. The humidity of Cornwall is great, and the gales of wind are frequent and violent; and these features neutralize the superiority it possesses in other respects. Therefore, little benefit is to be expected in decided consumption; but where there are no rising tubercles, and in cases of chronic bronchitis, the climate is beneficial. As a summer residence, Penzance is equal to the Devon coast; but inferior in winter. It suits aged invalids. There are various good rides and drives.

West of England.

Clifton and *Bristol* are the mildest and driest climates in the West of England. The climate of Clifton is drier and more bracing, but less soothing than that of Devonshire. It is likely to be beneficial to those suffering from long continued derangement of the digestive organs, and *to young* scrofulous persons of relaxed habit of body; *also in diseases* of the mucous membranes, attended with

copious secretions. The waters of the Bristol hot well are serviceable in many cases of indigestion.

The island of Bute, in the Frith of Clyde, may be resorted to in diseases likely to be benefited by residence in the south-west of England.

Cove.—Cork Harbour affords us one of the mildest climates in Great Britain; and in climate it corresponds with that of the south-west of England. The place to be chosen by a consumptive invalid must depend on the circumstances of the case. Where a soft, humid air is required, the south coast of Devon, Penzance, and Cove, are best. Where the bronchial membrane (air passages) is relaxed, and pour out a copious secretion, or where spitting or coughing of blood is present, the drier and more bracing air of Clifton, or Undercliff, is to be chosen; and Hastings may be considered as taking a position between the two.

The climate of the Channel Islands, Jersey, and Guernsey, resembles that of the south-west coast of England; and invalids of similar classes should seek it for about six months in the year.

France.

The climate of the south-west resembles that of the south-west of England—soft, relaxing, humid—likely to be beneficial in irritation of the air passages, without much expectoration; in scaly skin diseases; in difficult menstruation; and in certain kinds of headache; in high morbid sensibility of the body, where the flesh is not loose and flabby.

Pau.—The mildness of the spring and its comparative freedom from winds, render this place favourable for sufferers from disease and irritation of the air passages, also in inflammatory indigestion, in some cases of asthma; but as the climate is relaxing, the invalid must move to a more bracing climate. With delicate children it agrees well.

Persons with delicate chests should avoid Pau. As to leaving Pau, if it is to return to England, May is the proper month; if to go to the Pyrenees, June; because the best season for using the mineral waters of the Pyrenees commences about the 1st of July.

Provence has been celebrated as a sanitary resort for the consumptive, wherefore one now can hardly tell; for though

a residence at some of its cities may be of service in some diseases, it is certain that the most powerful objections exist to sending thither the consumptive invalid.

The sky, it is true, is clear and blue, but the air is sharp and biting, especially in the spring; while the frequent noxious winds, the bise and the marin, the one cold and cutting, the other damp, irritates weak lungs and excites a frequent cough. Provence, moreover, says a late writer, Dr. Burgess, is the land of dust. "Indeed," he says, "there are parts of this province of the sun, popularly so called, which might vie in whirlwinds of dust even with the banks of the Nile, the most recent foreign fashion for consumption."

The same writer gives us a graphic account of the mistral, or north-west wind. He tells us that the south of France has ever been famous for violent and impetuous winds, amongst which the mistral is pre-eminent for its injurious character; and an ancient Provençal proverb thus alludes to it—

> "Le pàrlement, le mistral, et la Durance
> Sont les trois fléaux de la Provence."

This wind is so impetuous that it drives stones before it, overturning men and their vehicles, and stripping them of their clothes and arms.

For several days in spring, says Dr. Burgess, the climate may no doubt be delicious, although, however, always too warm about mid-day, when suddenly the mistral begins to blow. It is difficult to give an adequate idea of the change, or of the injurious effects of the climate under the influence of this scourge. The same sun shines in the same bright blue sky, but the temperature is glacial. The sun is there only to glare and dazzle; and seems to have no more power in producing warmth than a rushlight against the boisterous winds which chill the very marrow in one's bones. During the prevalence of this wind, it is impossible to stir out of doors, without getting the mouth and nostrils filled with dust. All nature seems shrivelled and dried up, under its baneful influence.

Arles seems to be the head-quarters of this wind; its baneful effects are dreadfully felt at Marseilles, but at *Aix and* Montpellier in a less degree. The general *character* of the climate of Provence is, then, hot, dry,

and irritating, with a temperature suddenly and extensively varying; wherefore all consumptive invalids, and all who complain of irritation of the air passages, or stomach, should avoid Provence, though the dry and bracing qualities of its air may prove useful to nervous and hypochondriacal invalids, provided they possess sound lungs.

Hyeres, a small town near Toulon, is less trying, because there is a more luxuriant vegetation, and less dust; but even here, the mistral extends its influence, and the keen blast often sweeps round every corner.

Montpellier.—Is totally unfitted for the consumptive, and Monsieur Fournier notices the prevalence of northerly winds here during the winter and spring, and adds—"*Il faut avoir la poitrine bien bonne et bien constituée pour resister à ses impressions.*"

Marseilles.—The character of the climate is still more objectionable; it is dry, variable, and subject to cold, cutting, irritating winds; and there are no rides in the neighbourhood—no country drives for the stranger.

Nice is protected from the mistral to a great extent; but when it takes a more westerly direction, it is felt in Nice. It is there called *La queue de la mistral.* It sets in generally about 2 or 3 P.M., and is not of long duration. The greatest objection to Nice is the remarkable variation of temperature between day and night, in the sun and in the shade. The land or continental winds prevail during the night: the southerly or maritime during the day. The former are cold and dry; the latter, soft and humid. As soon, therefore, as the former subsides, and the sun rises in the horizon, the humidity commences to show itself in the atmosphere; whilst when the diurnal winds cease, and the sun sets, the above hygrometric condition of the air disappears. Monsieur Carriere cannot conceive why the English prefer Nice to a milder climate.

Spring is the most unfavourable season; for the sharp, chilling, easterly winds prevail during the months of March and April, and prove very dangerous indeed to the consumptive.

From the middle of October to mid November a good deal of rain falls.

The diseases common at Nice, are catarrhal affections and inflammation of the lungs; inflammatory indigestion and gastric irritation, are very prevalent indeed. Agues,

and diseases of the eyes and skin, are also very common. One or two years' residence may be serviceable to those predisposed to consumption, where there is no gastric irritation; but in a confirmed stage of the disease, Nice is more likely to do harm than good.

In chronic bronchitis, with copious expectoration, which so often resembles consumption, Nice will prove very salutary; also, in the chronic catarrh of aged people.

A winter in Nice will be of service in chronic gout; also in chronic rheumatism; in scrofulous disorders; in hypochondriacal and nervous complaints; in that indigestion, which is connected with a relaxed state of the system, and in which there are no signs of irritation of the mucous membrane of the stomach; in young females whose periods have not yet been established, or have been suppressed; in that state of system which has been produced by mercury, or that follows a long residence in the tropics. In short, the climate is warm, exciting, and exhilarating.

Invalids should arrive about the middle of October, and leave it before the beginning of May.

Villa Franca is close to Nice, and possesses a similar climate; only it is more protected from the north, north-west, and north-east winds than Nice, but it is open to the easterly winds. There is a beautiful bay before it. More accommodations are wanted.

Merton, about 14 miles from Nice, on the road to Genoa, is a sheltered spot: and so is San Remo. The great mildness of climate is made evident by the flourishing state of the lemon plantations. At Bordighera, near San Remo, the palm-tree is largely cultivated for the sake of its etiolated leaves, of which it has long afforded a supply for the ceremonials of the Church of Rome; but there is a want of accommodation at these places.

Sir James Clarke recommends the invalid who has passed the winter at Nice, and begins to feel the irritating effects of the spring winds, to leave it and proceed to Genoa by the sea-coast, by a road which is protected from northerly winds.

He may go to Pisa or Rome, or by steam-boat from Genoa to Civita Vecchia, which is about forty miles from Rome. This mode of travelling (by steamer) is less *fatiguing*, and Rome offers now a good residence to the *consumptive* invalid, who has passed the winter at Nice.

ITALY.

Genoa.—Unsuitable for invalids. The summer is hotter, the winter colder than in Nice; the air is sharp and exciting, but less irritating than that of the south-east of France. Relaxed, phlegmatic habits may receive benefit; and gout and indigestion are said to prevail less in Genoa than in most parts of Italy. Unfitted for the consumptive. The changes of temperature are here rapid and frequent, and there are dry, cold winds from the north, alternating with warm, humid winds from the south-east. Inflammatory affections are frequent here, so is rheumatism; scrofula also is common; but gout, calculous disorders, and agues are rare, or of mild character.

Florence is not fitted to be the residence of an invalid, especially a consumptive one. There are sudden transitions of temperature, and cold, piercing winds during winter and spring. Fogs are common.

In winter the air is chilly and loaded with moisture. The cold is very great in December and January, especially during the nights. February and March cold and humid; the east wind in March being extremely keen. April and May bring fine weather. July and August oppressive heat; the thermometer rising to 80° or 90°. In September the cool weather commences.

Dr. Burgess says, that "Florence is built in a deep ravine almost surrounded by the Apennines, and intersected by a squalid river. There is extreme cold in winter; great heat in summer; chilling northerly winds prevail; there are rapid and violent transitions: violent atmospheric and thermal variations; and the hygrometric and electric influences are ever changing."

Florence is unsuited for all inflammatory attacks; but its dry, bracing character renders it a good residence in all diseases accompanied with relaxation. In humid asthma, in atonic indigestion, in gout, and scrofula, Florence will help materially; but every one should leave in the months of July and August.

The summer here disagrees with children.

The baths of Lucca offer a retreat during the hot months.

Pisa.—The climate here is softer than that of Nice,—not so warm; it is less heavy and depressing than Rome; this latter, however, is not so hot in summer, and warmer in

winter. Rain, 45.66 inches; as much as falls in Cornwall.

The mal di petto, dysentery, gastric fevers, cataract and ophthalmia are common. Croup occasionally is seen; nervous affections are common; so is hospital gangrene. Agues are now rare, from draining. Consumption is not uncommon; but chronic bronchial affections are common. For invalids, confined almost to the house, the Lung' Arno is a warm residence, and the sheltered terrace offers desirably for exercise. Calculous diseases are very rare.

Rome

is said by Sir James Clark and Mons. Carriere to be suitable in the first stage of consumption; but a more recent author, Dr. Burgess, condemns it as unsuitable in any stage.

The climate is very calm, mild, and soft; but relaxing and oppressive. Rainy days 117; not so dry as Madeira. The wind in the winter and spring comes from the north —the tramontana—it is of short duration, of three days only; it is dry, keen, and irritating. The sirocco is mild, pleasant, and soothing to irritable persons; and its relaxing effects are felt by the more sensitive and plethoric healthy persons. March and April are windy; setting in in the forenoon and continuing till sunset, leaving the nights calm and serene.

The mean annual temperature is 10° higher than that of London; 8° than Penzance; 6° than Pau; 1° than Naples; 4° below that of Madeira. In winter still 10° higher than that of London; 5° Penzance; 7° Pau; 1° Nice; and 11° lower than that of Madeira.

A calm, mild atmosphere is what is desirable in all irritations of the air passages. Malaria fevers are common: newcomers resist this malaria for a year or two, then become predisposed. Invalids should sleep with closed windows, and in warm rooms.

In winter the cold is to be avoided; in summer, confined humid air. The nervous system is rendered more sensible and excitable. Hence the apoplectic seizures, called *accidente*, are common; the languor from fulness of the head-vessels also. Inflammation of the lungs and violent *obstructions* in the abdomen are common; so are pure *nervous* headaches; but habitual headaches are often *relieved*. In inflammatory indigestion, in dry, irritable

bronchial affections, and in chronic rheumatism, Rome is serviceable. Consumption is not common. Where free expectoration is present, and without gastric irritation, Nice is preferable; but in apoplexy, nervous diseases, hæmorrhages (discharges of blood), and in agues, Rome is to be avoided. There are great facilities for exercise.

The Piazza di Spagna is the best site.

The invalid should arrive in October and leave about May, to move northwards.

Persons with dry, unperspiring skins, are relieved by a summer residence near Naples, Ischia, Sienna, the baths of Lucca, and Switzerland.

The *Cure de Raisins* may be tried in cases of irritation of the mucous membrane of lungs or stomach, in piles, and fulness of the vessels of the belly. Several pounds of ripe grapes must be eaten daily for some weeks, with light diet and no wine.

No sight-seeing, nor evening parties are allowable.

The dyspeptic and hypochondriac should try the waters of Plombières, Vichi, Ems, and Carlsbad in summer.

The malaria fevers appear about or before July, and cease in October. Choose a dry, open, well-aired site for a lodging.

Naples.

The climate is like that of Nice—only more changeable,—damp and wet; somewhat softer in winter. The sirocco is severely felt here. Catarrhal, cutaneous, nervous, and womb diseases are frequent here; so are rheumatism and ophthalmia. Intermittents (agues) occur sometimes. Consumption not frequent. There are no proper places for exercise.

Naples is best suited as a winter residence for those who labour under general debility and deranged constitution, without any marked local disease.

Naples is not suitable for the consumptive; and in chronic rheumatism, Nice and Rome are preferable.

The Borgo di Chiaja and Chiatamone afford the best residences for invalids; they are exposed to the south and are pretty well sheltered from the north; and the public gardens (Villa Reale) are near.

Madeira.

It has been agreed by all who, up to a recent period,

have given us their experience of Madeira, as a climate suitable for the consumptive, that it ranks the very first. The summer is described as mild, and the winter warm; the climate is called steady, the rains regular in September and October. In the summer, the north-east winds keep it cool; the month of March is windy; April and May showery; spring is the most trying season, and in summer it is usual to seek a cooler situation up the mountains. Agues, remittent fevers, and continued fevers, are rare, as are croup and calculous disorders; but elephantiasis (see *Diseases*), cutaneous diseases, apoplexy, and bowel-complaints, are frequent; while dysentery is epidemic.

The consumptive should leave England in September, and Madeira in June, and should winter in the West Indies. But Dr. Burgess tells us, that to consider Madeira a sanatorium is a complete delusion; instead of its climate being dry, it is saturated with humidity during a greater part of the year; and the peculiar sirocco of the place, called *seste* by the Portuguese, is of a hot, irritating nature. The average duration of life in Madeira is inferior to that of England probably. The variations of weather are frequent and remarkable. In proof of the humidity of the climate, iron cannot be kept from rapidly oxidizing; gloves, shoes, &c., become covered with cryptogamous plants; silks become spotted and unfit for use; neutral salts deliquesce; powders become solidified into masses; and strings of violins, guitars, &c., become so tight as to be almost immovable.

Madeira is said by him to present no greater certainty of fine weather than any other place, and equally to have its annual variations of temperature,

Summer Residences in Italy.

Naples, Sienna, and the baths of Lucca, are generally chosen as the most eligible summer-residences south of the Apennines. The Vomero and Capo Dimenti, near Naples, are mentioned by Sir James Clarke. Sorento, Castelamare, and the Island of Ischia, are the best,—Sorento being the coolest. Sienna is to be selected by people of relaxed habit.

The season at the baths of Lucca is comprised in the *months of* June, July, and August.

Malta has been recommended to the pulmonary sufferer

as a residence, from October to January, and Dr. Davy speaks favourably of it, as equal to any part of the south of Europe; but Dr. Burgess says, the weather during spring and winter is cold and variable; and in autumn the sirocco is frequent; and when the sirocco has blown for some days, it suddenly lulls, and is succeeded by an equally strong breeze from the north-west, contrasting violently with the former in the temperature.

The extremes of heat and cold are as great in Malta, and in other places in the Mediterranean, as in London; and Dr. Burgess saw five or six cases of bronchitis, which terminated in incurable consumption; and in two cases, he says, only six weeks elapsed between the first signs of the tuberculous deposit and the death; so rapid was the course.

Lago Maggiore.—The valley of the Lago Maggiore is subject to sudden and fearful thunderstorms in summer, affecting the atmosphere very extensively. As a residence for the consumptive, this locality is open to objections similar to those applying to Nice; but persons suffering from palsy and from chronic catarrh, general debility, and disorder of the digestive organs, may derive benefit from a summer residence here. Beware of ascending mountains, unto sweating, and then of a sudden chill.

Lake Como is the Arcadia of Italy. Varena is the best situation. Here a nocturnal wind—the Tivano, and a diurnal—the Pineva, are the prevalent winds; they are the north and south winds. Here also prevails that species of leprosy called the pellagra, with its mind-destroying effects, unto lunacy and idiocy. A diet of maize, which is deficient in gluten, seems to be an efficient cause of pellagra.

A summer residence is as good here for the consumptive as anywhere in Italy, on account of the mildness and equability of the atmosphere.

Milan.—The climate here is decidedly cold; it is also humid, and so much so as to cause the flabby lymphatic appearance which is general amongst the natives. The consumptive must not dwell here.

Central Lombardy is unsuited to the consumptive; it is cold, exposed to winds, and marsh miasmata; and Brescia, Pavia, Verona, Mantua, are unsuitable to invalids.

Venice.—The air here is mild, owing to exhalations from the water constantly tempering the heat. The absence of

agues has struck many persons; but, although there is so much water, it is so confined between high walls as to prevent any exposure to the sun of the muddy banks. The character is decidedly sedative; the climate is therefore adapted to the inflammatory habit, to inflammatory affections of the mucous membranes, old cases of catarrh, asthma. The gondola exercise is well adapted to consumptive invalids; but sight-seeing kills many there.

Egypt.—It has lately become fashionable to send the consumptive invalid to Egypt; and a very recent writer (Mr. Nourse) says, that if a person is not advanced beyond the first stage of consumption, and can bear a little fatigue, and disregard a few comforts, he should arrive in Egypt in October; he should leave Cairo for the upper country before December, and go as high as Thebes, which is the best place for head-quarters in mid-winter; from which place he may move up the river to various places of interest. It is not advisable to go into Nubia; but if he does so, he should not remain there later than January, for the weather then becomes too hot, and sand-winds begin to be frequent. For the same reasons, we should quit Thebes in February, and drop down to Cairo. By following this plan, some months of settled weather and of equable temperature are secured. It is true, the nights are cold; but this evil is avoided by not going out after sunset. Cairo and Lower Egypt are subject to heavy rains in winter, with occasionally considerable cold. In spring, when Upper Egypt becomes too hot, it may answer for the patient to stay at Cairo for six or eight weeks, but not longer. After March, Cairo becomes unsuitable; the heat becomes very great, and the sirocco or khamsin sets in; the patient must seek some cooler country.

Egypt, then, is worth this for the consumptive. To arrive in October, to go up the country for three months, return leisurely and leave Egypt by the end of March or beginning of April, but not to be there at any other season. Five or six months of a mild equable warm climate are thus secured, with easy travelling; but no other latitudes of this extensive country at a wrong season should be resorted to, or mischief will ensue. The diet, clothing, and general management must be adapted to circumstances.

For twenty miles south of Cairo, and from thence up *the Nile, the* climate is rainless, the air excessively dry,

so dry as to render sore the exposed mucous membranes of the lips and nostrils, and to aggravate the tendency to eruptive disease for which Egypt is noted. These are still the plagues of the country; even in the cool season, pimples and boils are apt to break out, and sores to be troublesome in healing; and in July, August, and September, whenever the north wind does not blow and temper the heat, a painful eruptive complaint, called the Bouton du Nil, prevails. Ophthalmia is also common, and worm disorders are frequent, and dust and vermin are troublesome. Evaporating dishes should be placed in the invalid's apartments, sleeping-room, &c., in a climate like Egypt. It is often beneficial to spend the winter in Andalusia; but the most marked benefit is derivable from taking a voyage or two in a vessel sailing between Sierra Leone and the West Indies, thus traversing the tropical part of the Atlantic.

Cruising in a warm and temperate latitude is a powerful help in the consumptive habit, and whilst the sun is north of the equator, the climate between the thirtieth and fiftieth degree of latitude, and while the sun is south of the equator, that from the twentieth to the fortieth degree of north latitude will be found the most salutary, says Dr. Copland.

AUSTRALIA.

Our experience of this country, as a resort for invalids, is not yet matured enough to allow us to speak positively. Some writers have praised the country as a sanitary resort, others condemn it.

In New South Wales, hot winds from the north-west prevail. They occur on an average four times in every summer, and blow from twenty-four to thirty-six hours each time, the atmosphere feeling all the while like a current of heated air from a furnace; the thermometer standing at from 90° to 100° Fahr. or even at 112°. To this wind succeed some from the south, which cause the mercury to descend rapidly. In the winter, near the sea, the cold is but little felt; but in the interior, the frosts are strong enough to form ice as thick as a shilling.

In South Australia the summer heat is disagreeably great, and the changes of temperature, generally three times a day, are also great. In the morning the ther-

mometer may be about 66°; at mid-day 96° or 98°, and 66° or even lower at night.

Swan River.—Climate similar to the forego ing, only more moist and less subject to droughts.

The climate is considered as remarkably healthy; the mortality of the troops employed there on an average of twenty years from 1817 to 1836, did not exceed fourteen per thousand annually, whereof a fifth part arose from violent or accidental deaths, thus reducing the mortality to little more than one per cent.

Catarrh prevails often as an epidemic, and dysentery is the most prevalent and fatal disease to which the colonists are subject; rheumatism and ophthalmia are also frequent.

But a late writer (Jan. 7, 1854) thus describes this climate—"The heat for six months in the year is exhausting. There are violent influenzas in the six winter months; the deaths are sudden. Death from disease of the heart is very frequent, and this is almost peculiar to Australia. Mortification very commonly ensues after dysentery in summer. Scarlet fever is very fatal. After a long residence, and in hot weather, many are obliged to seek the high Table Land, and in those high lands ophthalmia and influenza both prevail. Liver complaints are common, in short." Dr. Webster thinks the climate of Australia is not so favourable to health as our own cool wet England.

Van Diemen's Land.

The climate is more changeable, cooler, and less subject to droughts, than is that of Australia. The changes are, however, better borne, and are less injurious than similar changes in other countries. Influenza is epidemic at times, and fever with disease of the mucous membranes.

The climate is too changeable for the consumptive, who are soon carried off here. Diseases of the chest are unfrequent; fevers are exceedingly rare; dysentery and dyspepsia very common; so is constipation extremely common; diarrhœa rare; rheumatism severe and frequent; scrofula and glandular disease are rare; and idiopathic ague, measles, scarlet fever, and hydrophobia, &c., have not been met with in the colony. Hooping-cough was *once* introduced, but gradually it became milder, and in *a few months* disappeared.

New Zealand.

Dr. Martin prefers this climate to that of any other colony in the southern hemisphere—"If any climate in the world deserves to be called temperate, it is that of New Zealand, which may properly be called one eternal spring." It is mild, soft, and equable, and resembles England very much indeed.

It is very much exposed to winds—only twelve, out of 365 days could be called calm—during 213, it blew from the north or north-west, and during 119, from the south or south-east. This wind is considered as very beneficial, and no more rain falls than the soil wants. The wind, Drs. Martin and Dieffenbach consider, to be the cause of the general healthiness of the country, and of its freedom from fevers, and all epidemic and endemic diseases. The vicinity of marshes and stagnant waters is as free from diseases in New Zealand as dry and elevated situations. Scrofula, consumption, rheumatism, and cutaneous diseases, and inflamed eyes, are common among the natives.

The Canaries' Islands.

This group is south of Madeira, 200 miles distant, and nearer to the African coast than Madeira. Santa Cruz is the capital of the principal island (Teneriffe) on its south-eastern shore: a clean, well built town. The temperature is more equal at Madeira; though the climate of Santa Cruz in winter possesses advantages in point of temperature and dryness over that of Funchal—but there are few accommodations, and mosquitoes are found during the whole year. Orotava is on the north-western side of the island, twenty-five miles from Santa Cruz; it is cooler than Santa Cruz, but not so dry. At an elevation of several hundred feet above Orotava, the climate is very equable throughout the year; there are here more accommodations, roads, and beauty of country. The summer might be passed at Laguna, or above Orotava; and the winter at Santa Cruz, or partly at Santa Cruz and partly at Funchal.

The Azores

Lie five degrees to the north, and more to the westward of Madeira—of volcanic origin. The mountain, which

gives name to the island of Pico, is about 8000 feet high, and is often covered with snow. St. Michael's is the largest island; and Ponta Delgada, its chief town, contains 12,000 inhabitants. Villa Franca, twelve or fifteen miles to the east of Delgada, is more pleasantly situated, and is more protected from north-east winds. The roads are dry; the rains are speedily absorbed; water very pure and abundant. The humidity of the air is, however, very great: boots grow mouldy in a few days, clothes get musty, and require frequent exposure to the sunshine. Saltfish soon spoil, and no quantity is ever kept; and no salt is made on the island. The December north-east winds are cold; the January, February, March, and April southerly and westerly winds are soft and warm—the sirocco not felt. Gales from the westward and south are not unfrequent.

Fayal is about 160 miles to the north-west of St. Michael's. Horta, its chief town, is on the east side. An English consul and physician reside here. There is a boarding-house.

Communication is frequent with England during the orange season, and the different islands communicate frequently after March; but during the winter, communication is uncertain. In all the islands, poultry and fish are abundant. Beef and mutton, milk and butter, are all to be procured, and light good bread. The wines are indifferent, but unadulterated.

The climate of this group is mild, humid, equable, slightly colder and more humid than Madeira, but more equable.

In inflammatory indigestion, in irritation of the air passages, with but little expectoration, the climate of the Azores may prove beneficial; but in relaxed states, mucous discharges, and in debility, no good can be expected.

The natives suffer from gastrodynia, or pain in the stomach; and no wonder, for their diet consists of cabbage and potatoes, chopped up with a little lard. Rheumatic neuralgia, (of face, neck, and arms,) lumbago, sciatica, partial palsy, are diseases not uncommon.

Madeira is less humid than the Azores, less dry than Teneriffe during winter, and cooler during summer, owing probably to its being within the limits of the trade winds during the hot season.

A change from the Azores to Madeira, and from thence *to Teneriffe*, would sometimes prove more beneficial than

a residence during the whole winter in any one of these islands.

Bermuda.

Exposed to violent winds, very hot in summer, parched, variable, and windy in winter, not likely to be a resort for invalids.

The Bahamas.

Harbour Island, close to Eleuthera, is esteemed the most healthy; but there are no accommodations. At Nassau, in New Providence, the only doctor resides. Changes of temperature rapid, and dry cold winds prevail. A winter in the Bahamas would suit the residents in the West Indies.

The West Indies.

Sufferers from chronic diseases of the membrane of the air passages may derive benefit here. For stomach complaints this is not suited as a residence, the induced and constant activity of the skin reacting on the organs of the abdomen, namely, the stomach and liver; but in long standing indigestion, with debility, good may be expected. Scrofula is decidedly benefited here; stone diseases rare. Weak, irritable constitutions, an irritable skin, eruptions on the skin, severe headaches, a tendency to insanity, fair plethoric people, are all unsuitable as cases for the West Indies.

The most healthy islands are Jamaica, Barbadoes, St. Vincent's, Antigua, and St. Kitts.

St. Kitts as a high, and Barbadoes as a low island, are to be preferred. St. Kitts is well spoken of for salubrity by every one; its mountainous character allowing of a choice of cool residences, or rather of sites for residences, for there is but little accommodation, though the roads are excellent.

The higher grounds of Barbadoes, from 600 to 1000 feet high, near a place called Scotland, is considered so healthy, as to induce the late Dr. Ferguson to recommend it as a general convalescent depôt for debilitated invalid troops, from all the other islands of the whole Caribbean Archipelago, instead of sending them to Europe.

Antigua,

according to the army reports, may be considered as more

favourable both to white and black troops than most of the others in the command.

The proper time for residence in the West Indies is from the beginning of December to the end of April. The invalid should leave England in October or November, and not return to it until the end of June.

On the voyage, too, he should prepare himself for the great change he is about to undergo, until the system has become habituated to the exciting high temperature, and until the increased perspiration, which is a means employed by nature to enable the living body to bear the heat of a tropical climate without injury, is fully established. To do this, he must live somewhat more abstemiously than he did before—take less meat and exciting food, less or no wine, and all direct exposure to the sun must be avoided. Cooling laxative medicines are necessary. If new-comers were to follow such rules as these, the mortality would be greatly lessened.

On returning to England, avoid damp and cold on deck, and clothe more warmly than usual.

The Cape of Good Hope

is often selected by invalids. The seasons, south of the equator, differ from ours. September, October, and November, being their spring months; December, January, and February, the summer; March, April, and May, the autumn; and June, July, and August, the winter.

South-east and north-west are the most common winds at Cape Town,—the former prevails during the summer season, and is sultry, relaxing, and debilitating; the latter, during winter, is cold, chilly, and accompanied with violent gales and heavy falls.

The south-westerly, during spring and autumn, bring fogs, which descend in tempestuous blasts and cool the air immediately.

The climate is as favourable to health as is that of Great Britain. No very prevalent diseases. Rheumatism is perhaps frequent; but people throw off garments, and place themselves in a current of cold air, whilst still in a state of perspiration.

The eastern province is very healthy; rheumatism only *is common*. About five miles from Cape Town is Rende*bosch, and* about eight miles is situate Wynberg. These

places are much cooler than Cape Town, from being open to the south-east wind, which blows nearly the whole of summer. Thither officers and invalids flock from India and elsewhere; and there are boarding-houses, shady walks, and rides, &c.

And now, that notice has been summarily taken of most of the localities which are usually selected as sanitary places of resort, both in England and in foreign countries, it will be well to conclude with some observations of Dr. Burgess—tending to show us that there are probably many places in our own country which will afford to the invalid, threatened with or suffering from consumption and other diseases, as great chances of recovery as any of those in other parts of the world.

After saying that nature has adapted the constitution of man to that of his ancestors, and that the natural climate of man, as well in health as under disease, is that in which not only he himself was born, but likewise his blood relations for several generations; he argues that the invalid is less likely to endure, without injury, the unnatural transitions to which he is exposed by being sent abroad than the healthy man would be.

Accordingly, it is very painful to witness the deplorable sight of many a consumptive patient wandering through Italy in search of health, unacquainted with the language and habits of the inhabitants, and missing, at every step, the comforts of home, and kindness of relatives and friends.

He asks, in objection to this expatriation: Why should a warm climate be preferred to a cold one, if the temperature be equable? the mortality from consumption being less in the latter than in the former; and, since a revolution must take place in the system of every such invalid who goes to Italy, before he can become acclimated, how many must sink under the probationary process from fatigue and exhaustion?

It should be added, that if a patient derives benefit from a foreign climate, he should never leave it, or he may relapse; and that the rapid variations, and extensive range of temperature, peculiar to warm climates, greatly counterbalance their good effects.

Wherefore, it seems reasonable to recommend all such invalids to seek change of air in the same climates in

which they were born or lived, by choosing a locality more suitable for them in their suffering condition.

In recommending a choice of climate to the consumptive, undue if not exclusive attention has been paid to the effect of atmospheric air on the breath passages—and a warm air has been considered the sole desiderandum—but the remarks at page 85 will show that an equable cold climate is, under proper precautions, more likely to benefit the consumptive than most of the much lauded warm ones.

Those who would desire to see climate, considered more in detail than could here be done, in respect of its relations to the recovery of health, or the prevention of disease, the writer would recommend to peruse the excellent work and standard authority of Sir James Clarke, and also Dr. Burgess's book on the *Climate of Italy*, and those of Messrs. Schouw and Carriere.

SECTION III.

Mineral Waters.

These may be arranged into the following classes:—Alkaline Waters; Acidulous; Chalybeate; Sulphureous; and Saline.

Alkaline Waters owe their properties to a free alkali, or it may be, one slightly carbonated. An alkaline reaction is made sensible by the proper and usual tests.

These springs are rare. They contain carbonate of soda and carbonic acid, and are almost entirely free from earthy substances. The best instance of this water is that of the Furnas, St. Michael's, Azores. The Vichy waters are alkaline, and are often added to acid wines, which they neutralize; they are useful where there are deposits of uric acid in the urine, and from the small, yet efficient proportion of iron they contain, they increase the appetite, and strengthen the digestive powers.

The water is as nearly tasteless as possible; perfectly clear; and without smell. Ems, Teplitz, Mont d'Or, and Ischia are of this kind. The waters of Ems and Teplitz are thermal. The only mineral waters in this country, which contain carbonate of soda, are Malvern, in Worcestershire, and of Ilkeston, in Derbyshire.

These waters are useful in gout, indigestion, and the lithic acid tendency.

Acidulous Waters, or carbonated, are brisk and sparkling. They slightly redden litmus paper if the waters have not been boiled; the redness disappears on exposure to the air. Besides free carbonic acid they contain bicarbonates of soda, lime, magnesia, and sometimes of iron.

There are either thermal, or warm, or cold acidulous waters.

Of this kind are the springs of Cleves, Carlsbad, Kissingen, Fachingen, Marienbad, Geilnau, Rippoldsau, Soden, and Tonstein, in Germany; Languac, Upper Loire; Passy, near Paris; Wiesbaden, in Nassau; Ban-

dola, in Italy; Granshaw, in Ireland; Orston and Thorston, in Nottinghamshire; Stonefield, Lincolnshire; but Pyrmont, Seltzer, Spa, and Carlsbad, are the most celebrated.

All these waters afford a grateful and moderate stimulus to the stomach. The Pyrmont and Spa, from containing some carbonate of iron, are most useful in all cases of impaired digestion; while the Altwasser, Salzbrunn, Reinerz, Carlsbad, and Seltzer, which are more purely alkaline, are useful in gravel and calculous affections.

The *Chalybeate* or *Ferruginous Waters* owe their properties to iron. They have an inky, styptic taste. When newly-drawn they are transparent, and strike a black colour with tincture of nutgalls or with tea. The iron is often combined with excess of carbonic acid; but it may consist of the sulphate of iron. The acidulated chalybeate waters of the Pyrmont Trinkquelle or Drinkspring, of the Swalbach and Spa, are brisk, pleasant, and grateful.

Chalybeate springs are very numerous. On the continent are the following:—Abcourt, St. Germain; Aumale and Fourges, near Rouen; Bologna; Buzot, a warm spring in Spain; Caroline Baths, in Bohemia; Daswild, Baden, Germany; Driburgen, in Westphalia; Naptha, in Russia; Nisdenice, in Germany; Swhalbach, in Nassau; Ponges, Hassenfratz; Perekop and Sarepta, in Russia; Scolliensis, Switzerland; Suchalda, Hungary; and Vechy, near Moulines. In Great Britain, we have those of Arbroath and Peterhead, in Scotland; Ashton, in Wiltshire; Balemere, Worcestershire; Ballycastle, Antrim; Ballynahinch, Down; Ballyspellan, Kilkenny; Bandon, Cork; Bromley, Kent; Brownstown, Kilkenny; Castleconner, Kilkenny; Castleconner, Limerick; Castlemaine, Coalcullen; Corville. Coventry; Croptown; Doneraile; Dunnard, near Dublin; Galway; Garryhill, in Ireland;—of Haigh, in Lancashire; Hampstead, Hartfell, Scotland; Islington; Kilcoran, Kilagre, Kirby, in Westmoreland; Lancaster; Llandridad, Wales; Luz, in Essex; Listerlin, Mallory, Newton Stewart; Oakfield, Phœnix Park, Dublin; Scool, in Ireland; of Shadwell, near London; Somersham, Hants; Tunbridge; Brighton; and Peterhead are the most celebrated.

The Cheltenham contains carbonate of iron.

When preparations of iron are taken into the stomach, *they are partly* absorbed, partly evacuated, more or less

changed with the stools. The red colour which the sesquioxide of iron communicates to the stools of children, and the black colour of the stools after the employment of the salts of iron, are proofs of the presence of iron in the motions; and iron has been detected in the blood, urine, and milk.

When the preparations of iron have been given in cases proper for its employment, the appetite increases, digestion is promoted, the pulse becomes fuller and stronger; the skin, from being too pale or sallow, assumes its natural tint; the lips and cheeks become florid, the temperature of the body is raised, all swelling of ankles, &c., disappears, and the strength is increased. Consequently, where there is a full habit of body, flushed face, full, quick pulse, &c., chalybeates would be decidedly injurious. The iron acts upon and alters the constitution of the blood, as chemical analysis has shown, but which analysis need not here be detailed; consequently, chalybeates are fitted for cases of indigestion, scrofulous disorders, cancer, stoppage of the periods when connected with debility; non-appearance of them—green sickness. Much of the efficacy depends on the extremely minute division of the iron and the other components, while their operation is modified by the carbonic acid in which the iron is suspended, and they usually agree better with the stomach. When these waters sparkle in the glass, they should be drunk the moment they are drawn from the spring; with those not carbonated this does not matter.

The Aluminous Chalybeates—those, namely, which contain sulphate of alumina, viz., the sand-rock in the Isle of Wight, the strong Moffat chalybeate, the Vicar's Bridge chalybeate, and the Passy waters, are apt to occasion pains in the stomach if taken in an undiluted state.

The Sulphureous or Hepatic Waters are impregnated with hydro-sulphuric acid (sulphuretted hydrogen); and by virtue of this sulphuretted hydrogen, they have the smell of rotten eggs; and when solutions of lead, silver, copper, bismuth, &c., are added to these waters, black precipitates fall, which are metallic sulphurets. When strongly impregnated with the gas, they will redden litmus paper, and blacken silver and lead when even in a weak state. But some of these waters retain, even after boiling, their power of causing these precipitates; and then there is a sulphuret or hydro-sulphuret of calcium or sodium in

solution. All the British sulphureous waters are cold; but some of the Continental are thermal or warm.

In England, at Harrowgate and Kilburn; in Scotland, at Moffat and Rothsay; on the Continent, at Enghien, Bareges, Aix (near Geneva), Aix-la-Chapelle or Aachen, and Baden, the most celebrated sulphureous waters are to be met with. The list of these waters is rather numerous:—Annaduff, Leitrim, Askeron, and Broughton, in Yorkshire; Clonmel, Tipperary; Codsalwood, Staffordshire; Derrylister, Cavan; Drumasnane, Leitrim; Dudley, Worcestershire; Kidleston, Derbyshire; Killashen, Fermanagh; Loansbury, Yorkshire; Maudley, Lancashire; Nottington, Dorsetshire; Ripon, Yorkshire; Shapmoore, Westmoreland; Wardlaw, Northumberland; and Worksworth, in Derbyshire. On the Continent, besides those already mentioned—Baia, Italy; Dax, Bayonne; Ems, Germany; Montmorency, Paris; Motte, near Grenoble; Viterbo, in Italy; St. Amand's, near Valenciennes.

These waters exercise a stimulant influence over the system, and are adapted for chronic ailments. They are supposed to exert a specific power over the skin and the womb; they are employed both internally and externally in skin diseases, lepra, psoriasis (scaly tetter), itch, dandriff, ringworm, &c.; in non-appearance, or stoppage of the periods; in chronic rheumatism and gout; in piles; and in some cases of bronchitis. They certainly act on the skin, and are sudorific (sweat-inducing) and diuretic; they are given in obstructions, or torpor of the liver or bowels; in scrofula, and in some hypochondriac or dyspeptic cases. They are apt to occasion headache, which lasts a short time, directly after they are drunk.

Saline Waters owe their properties to saline compounds consisting of salts, the basis of which is lime, or chlorides of sodium and magnesium, or sulphate of magnesia (Epsom salts), or alkaline carbonates — carbonate of soda, especially; most of them are purgative, the great proportion of water adding to their effect.

The most celebrated springs are those of Cheltenham, Leamington, Bristol, Kinalton; Pancras, near London; Scarborough, Sydenham, and Thursk, in Yorkshire; Pitcaithly, in Scotland; and on the continent, Carlsbad, *Pullna*, Seidschütz, and Seidlitz.

Their use is required wherever an aperient action on *the bowels* is demanded, as in indigestion, hypochon-

driacism, chronic disease of the liver, jaundice, and the various forms of scrofula. Some contain a good deal of carbonic acid, and are more grateful; others contain some iron, as in the Cheltenham waters—which last are serviceable in stomach ailments, and stoppage of the periods. They may be divided into bitter purging waters, in which Epsom salts predominate,—as those of Epsom and Scarborough, in England; Seidlitz, Seidschütz, and Pullna, abroad; and a thermal water—Acqua del Pozzato, near Pisa.

Glauber Salts Waters, as the warm Carlsbad, which are also alkaline as well as purgative, and the cold waters of Marienbad (the Krüzbrunnen and Ferdinandsbrunnen) and Franzensbrunn (the Salzquelle). Cheltenham, Leamington, and Spittal are earthy Glauber salt waters, useful in diseased liver, dropsy, piles, blood to the head. Salt or brine waters contain iodine and bromine, with chloride of sodium (common salt). Those of Middlewich, Nantwich, in Cheshire; Shirleywich, in Staffordshire; and Droitwich, in Worcestershire, are of this kind. The Kreuznach and Salzhausen springs, in Germany, belong to this class; also the thermal waters of Wiesbaden, Baden Baden, and Bourbonne. The common salt springs are the Cheltenham old well, Leamington, and Pyrmont. Some contain iron, as those of Kissingen and Hamburgh.

The bromine and iodine salt springs are the Woodhall or iodine spa in Lincolnshire, and the Kreuznach. The waters of the Dead Sea are of this kind. They are useful in glandular enlargements—scrofula.

Calcareous or Lime Waters contain the sulphate or carbonate of lime. They are the Bath, Bristol, and Buxton thermal springs. They are stimulant to the skin and the urinary secretions; they are alterative and constipating; celebrated in rheumatism and chronic skin diseases, as baths. The Bath waters are employed internally and externally in green sickness, gout, rheumatism, liver disorders, leprosy, and diabetes.

The Buxton are ordered for disorders of the stomach, gravel, and stone; gout; and externally for rheumatism.

The Bristol hot well is given in complaints of chest, consumption, and for stomach ailments.

Alkaline Waters.—The acidulated alkaline have been noticed. The Vichy, for instance. The Seltzers contain common salt; the Carlsbad contain Glauber's salt. Some

contain iron, and have been noticed. Those containing carbonate of soda, are Malvern, in Worcestershire, and Ilkeston, in Derbyshire,—useful in gout, indigestion, and gravel, of the red or uric acid kind.

To the class of *Saline Mineral Waters*, the water of the ocean belongs. The saline matter contained varies in different latitudes. Between 10° and 20°, it is rather more than one twenty-fourth; at the equator, one twenty-fifth; and at 57° north, it is one twenty-seventh. Brought up from a great depth, its taste is purely saline; when from the surface, it is disagreeably bitter, owing probably to the animal and vegetable matters suspended in it. Its specific gravity varies from 1·0269 to 1·0285, and it does not freeze till cooled down to 28· 5° of Fahrenheit. Its properties as a medicine resemble those of the saline purging waters; but they are more powerful as a bath; its efficacy is much superior to that of fresh water.

The diseases which are likely to be benefited by the use of mineral waters will now be mentioned, and those waters which are adapted for special disorders. They would seem to act beneficially, in the first instance, on the digestive organs; and, as many diseases of the skin, and other parts, are connected with, or depend upon those organs of nutrition, we see how the benefit may arise from putting them into a healthy state.

Disorders of the Digestive Organs.—Travelling, and the mere change of climate, may suffice to relieve or cure many of the lighter cases; but, in the more chronic instances, more is wanted. In such cases, mineral waters increase and correct the action of the secreting and excreting parts of our frame; the blood is thus cleared of its vitiating ingredients, and any congestion or fulness of particular organs is removed.

In indigestion of long standing, when there is no dry, red tongue, no thirst nor other signs of excitement or irritation, mineral waters, well chosen, will do good; but in inflammatory indigestion they will do harm, by the excitement they occasion.

When we have reason to believe that the mucous membrane of the stomach and bowels is in an irritable or congested state, complicated with chronic liver disease, or when the usual periods are not regular in their appearance, the waters of Ems, Vichy, or of Plombieres will be useful, especially if the system is not too relaxed.

If this state of bad digestion be mixed up with chronic affections of the air-passages, or with diseases of the skin, then the waters of Cauterets, in the Pyrenees, will be the best adapted.

Should the liver and stomach be in a torpid state, as shown by the usual signs, Marienbad, Carlsbad, and Kissingen, should be chosen for residence. The cold aperient waters of Marienbad will answer well, if active aperients are not required; but if they are, Kissingen waters will suit better, from being more exciting.

In atony of the stomach, with nervous debility of the system, and in debility of the womb and its functions, the invalid may begin with a course of Ems, Carlsbad, or Kissingen waters, and then go to Pyrmont or Schwalbach. To keep up some action on the bowels, the Eger waters are sufficient; but when a more tonic effect is sought, the waters of Schwalbach or Pyrmont are preferable.

But none of them will do good if there is organic disease in the stomach or a state of irritation.

The waters may at the same time be used externally as baths. All excitement is to be avoided while taking these waters.

Bronchial Diseases.—Ems, Bonnes, and Cauterets, and Mont d'Or, in Auvergne, are the places recommended in these affections. In bronchial invalids of delicate constitutions, the waters of Ems; in those demanding mountain air, or complicated with skin disease, those of Bonnes or Cauterets; and in languid, defective action of the skin, with chronic bronchial suffering, the waters of Mont d'Or; but when the air-passages are suffering secondarily, after congestion of the liver and abdomen, the waters of Carlsbad, Marienbad, or Kissingen are pointed out as most suitable.

Asthma.—A difficulty exists in recommending any mineral water for pure asthma, because some asthmatics cannot live high up on mountainous land; and others cannot breathe in low-land valleys; but where bronchial irritation, or disorders of digestion, are added to asthma, then mineral waters may prove beneficial. If asthma is complicated with heart disease, mineral waters are altogether inadmissible, and will prove decidedly injurious.

Gout.—For chronic gout, Ems, Carlsbad, Marienbad, Aix-la-Chapelle, and Wiesbaden waters may be taken. The soothing effects of the Ems waters form a good pre-

paration, in many cases, for the more opening and purifying waters of Carlsbad; and then may advantageously be followed by bathing and the douche at Wiesbaden, or Aix-la-Chapelle; and they are very beneficial when the joints have been rendered stiff and swollen from repeated attacks. Friction and the douche often effect much benefit in this last case. Any disposition to heart disease, or to disease of the brain, contraindicates and forbids the use of any mineral waters.

Rheumatism.—Climate and mineral waters are very beneficial in chronic rheumatism. Those of Aix, in Savoy, of Cauterets, and of Bagneres-de-Luchon, in the Pyrenees, and of Aix-la-Chapelle, are all highly recommended; and the two latter when there is a complication of skin disease. But if the stomach or liver is disordered, or the mucous membranes irritable, these organs must be first looked to; and the waters best adapted for them must be made use of. They have been pointed out.

The preceding summary of directions has been taken from Sir James Clark's recommendations.

The number of glasses of each water, the hours for taking them, the walks necessary before and after, the mode and times in which the bathing should take place, and the adaptation of quantity or of different springs to individual cases, had better be left to the direction of the attendants at the respective places.

SECTION IV.

ON DISEASES.

Fever.

Disease produces fatal results, chiefly in three ways; by fever; by inflammation or its results; or by morbid, that is, diseased deposits, such as cancer, scrofula, &c. And of modes of treatment, there are also three; either we find ourselves obliged to adopt a lowering mode of treatment, as in some fevers, and almost all inflammations, or we must try to give support to the powers of life by a treatment the reverse of lowering, or we must be neither too active in lowering nor in supporting, but adopt a waiting, watching method of treatment.

As fevers and inflammations are the most energetic and fatal enemies to life, we begin with the consideration of fevers.

Fever derives its name from one of its most prominent symptoms, namely, a sense of increased heat, and the reader should make himself well acquainted with its signs. Fever attends several diseases, as will be seen hereafter; but at present we mean to point attention to what may be called primary fevers, those which are not combined, either with eruptions of the skin, or with inflammation of any particular part of the body. Such fevers may be divided into six different kinds.

1st. Continued fever, which may be subdivided into inflammatory fever, mixed fever, typhus.

2nd. Intermittent fevers, subdivided into tertian, quotidian, quartan.

3rd. Remittent fevers.

4th. Infantile gastric fever, yellow fever.

5th. Eruptive fevers, such as small-pox, measles, scarlet fever.

6th. Hectic fevers.

The terms continued, remittent and intermittent, will be explained as we describe each kind.

The symptoms of continued fever were thus described by Cullen. It is a disease in which, after a precursory stage of languor, defective appetite, and muscular weakness, the pulse *becomes accelerated*, the heat of the body in-

creased; there are great debility of the limbs, and a disturbance of most of the functions, yet there is no primary local disorder, nor are there well marked remissions. The word remission means great diminution, or a temporary cessation of the febrile symptoms.

The symptoms vary in intensity, and in the periods of their accession, and local inflammations may supervene on the generally febrile state.

INFLAMMATORY FEVER, *technically* SYNOCHA,

is not often met with. It is defined thus:—after a stage of chilliness or shivering, the heat of the body is greatly increased—the pulse is hard to the finger and frequent—red deposit in the urine—the mental faculties are but little disturbed—and sweating usually terminates the attack.

The initiatory signs are,—feebleness, languor, and a sense of oppression, loss of appetite, sickness or vomiting, frequent and feeble pulse, to which succeed pain in the back, chilliness or shivering, paleness of the face, and puckered or goose skin. Then, after a few hours, the pulse becomes hard and rapid, the pulsations amounting to 120 or even 150—the skin is parched and very hot, its temperature rising to 102 and even to 106—the head aches greatly—the temples throb—there is giddiness—the face is flushed—the tongue is white and dry—great thirst—constipation—the urine is scanty and red, and there is often a frequent desire to pass it—while the sight and hearing are extremely acute.

Delirium may come on after a few days, and all the symptoms are increased in intensity in the evening, and diminished in the forenoon.

This form of fever may terminate after some critical discharge, or it may gradually disappear, or it may assume a typhoid form. The amelioration may occur on or before the seventh day; but if it continue much longer than seven days, the inflammatory signs disappear, and gradually change into those of a typhoid character.

If a tolerably profuse sweating occur on the fourth or fifth day, the patient is soon relieved from his febrile state, although he may be left in a weak, languid state.

Convalescence is slow, and relapses are not uncommon.

Causes.—*A* full habit of body predisposes, a strong

muscular power, and what is called a good constitution, while the exciting causes are sudden alternations of temperature; cold applied to the heated body; too violent exercise; intemperance; suppression of any accustomed discharges, or cutaneous eruptions.

Favourable symptoms are, perspiration—bleeding from the nose—eruptions appearing about the lips—a gentle looseness of bowels—the urine depositing a sediment like brickdust—the pulse becoming softer and more slow—while the unfavourable signs are, increase of intensity in the symptoms—fierce delirium—and laborious respiration.

Treatment.—The excessive action must be lowered by bleeding, purging, and by diaphoretic or sweat-inducing medicines.

If there is no medical man at hand to bleed—ten or twelve leeches may be applied to the temples, and, if necessary, repeated, but it is best to take blood from the arm, if that can be done—and the quantity of blood to be taken must be regulated by the effects produced, of which a medical man is alone the best judge.

A pill thus composed should be given, unless the bowels are very freely open.

No. 1. Of Blue pill . . . . . 2 grs.
Calomel . . . . . 1 gr.
Compound extract of colocynth, 2 grs. Mix.

This should be followed in some four hours by this mixture.

No. 2. Epsom salts . . . . . 1 oz.
Compound infusion of senna (see Formulæ) . . . . . 5½ oz.
Syrup of orange peel . . . . . ½ oz.

A third part to be taken every four hours until the bowels are freely opened.

Saline or fever draughts should then be given every four hours.

No. 3. Bicarbonate of potash . . . . 24 grs.

Lemon juice to be added until the bubbles of effervescence cease to rise.

Distilled water . . . . . 1 oz.
Syrup . . . . . 1 dr.

If vomiting occur, give draughts in a state of effervescence every *four hours.*

No. 4. Of Bicarbonate of potash. . . . 30 grs.
Syrup . . . . . 1 dr.
Water . . . . . 1 oz.

then mix in another glass tartaric acid 25 grs. in water, 1 oz.

Pour the one into the other, and drink immediately. One drop of the medicinal hydrocyanic acid may be added to each draught, if it can be got. The medicinal, not the strong acid.

Cold applications must be made to the head and temples so long as they are grateful to the patient, and the body may be sponged with cold water, until the heat of the skin is lowered, or perspiration promises to ensue.

For drink, either of the two following—

No. 5. Cream of tartar . . . . . ¾ oz.
Sugar . . . . . about ¼ lb.
Dried lemon peel . . . from ½ to ½ oz.
Boiling water . . . . . 4 pints.

or this,

Of syrup of lemons . . . . . 3 oz.
Distilled or soft water . . . 2 pints.

Nothing should be allowed in the shape of food.

If the disease do not give way after the first week, it may lapse into the next form—mixed fever.

When the feverish symptoms have left, we must be cautious to prevent a relapse, and especial attention must be paid to diet, allowing first, arrowroot mucilage, or arrowroot and milk, thin weak broth, or beef-tea with rice, increasing all nutritious matter very gradually, proceeding to white fish, mutton, &c., unti lthe usual diet can be borne without any bad effects.

If very weak, a tonic infusion will be of benefit.

1st. *Tonic Infusion.—Infusion of Calumba.*

No. 6. Of calumba root, cut small . ½ oz.
Boiling water . . . . . 1 pint.

Let this liquid stand in a gentle heat for two or three hours, in a covered vessel; when cold, strain.

An ounce, or a wineglassful of this, two or three times daily, may be taken. If the spirits are much depressed, add 20 or 30 drops of sal volatile to each dose, and if there *be acidity* after eating, add also 20 grains of the bicarbonate *of potash* to each dose.

d. *Tonic Infusion.—Compound Infusion of Orange-peel.*

No. 7. Of dried orange-peel . . ½ oz.
Recent lemon-peel . . ½ oz.
Cloves, bruised . . . 1 dr., or 60 gr.
Boiling water . . . . 1 pint.

et these be set by in a gentle heat, covered over, for out half an hour; when cold, strain. The sal volatile or otash may be added to this, if requisite.

3rd. *Tonic Infusion.—Compound Infusion of Gentian.*

No. 8. Of gentian root, cut small,
Dried orange-peel, of each ʒij. 2 dr.
Recent lemon-peel, ʒiv. . . 4 dr.
Boiling water. . . . . 1 pint.

et it stand for an hour, in a gentle heat; when cold, train.

The dose of the above infusions is from two to four table-poonfuls.

Mixed Fever, *technically* Synochus.

This is the kind of fever which prevails most generally, nd the reason for denominating it mixed fever is to be und in the fact that it may begin with signs of considerble excitement, which after a time glide into those of a yphoid character. It may be said to be a compound of ynocha and typhus.

We observe in most cases the usual preliminary ymptoms—paleness of face—languor—loss of appetite, hiteness of tongue—alvine motions changed in character—erhaps wandering pains. Sometimes this fever sets in uddenly with a shivering fit, and headache more or less evere. Then the pulse becomes frequent, most so in irriable constitutions, pulsations varying from 100 to 120, and n severe cases to 140. The skin is hot and dry—the thirst roublesome—the tongue becomes dry, and is most freuently furred, though it may be for a few days clean and mooth; it is red about the tip and edges, with a streak, nore or less broad, of fur in the middle; this streak is of light brown colour, which soon deepens.

This state may continue for six or seven days, when yphus supervenes if the fever have not yielded.

Causes.—Cold and moisture in a debilitated habit of ody, and besides these, *contagion*, which last we shall *evert to under the head of typhus.*

Treatment.—In mixed fever we must never forget that typhus is to be dreaded, wherefore we must content ourselves with remedies which will not materially impair the strength or lower power.

Few medical practitioners of the present day think that a fever can be cut short, as it is called, by any remedies known, but some have recommended an emetic for this purpose, and certainly if there have previously existed signs of a foul or loaded stomach, an emetic might be of service; if there is not much determination of blood to the head, as evidenced by beating of the arteries at the temples, violent headache, redness of face, injected eyes. Under these latter circumstances, an emetic should not be given.

To an adult give the following:—

No. 9. Of powdered ipecacuan . 20 gr.
Tartar emetic . . . 1 gr.

in an ounce or two of water.

After it begins to operate, some diluent drink may be taken, which will assist its action; but large quantities of fluid, taken into the stomach before the emetic has begun to act, will not only do mischief by distending the stomach, but they may prevent the action of the medicines altogether.

Gentle aperients should next be given, if the bowels have been in a costive state, before the invasion of the fever.

No. 10. Of Epsom salts . . . . . 1 oz.
Compound infusion of senna 6 oz.
Compound tincture of cardamoms . . . . . ʒiv.=½ oz.

A fourth part every four hours till it operate. But an aperient may be given with each saline draught till proper alvine action has ensued, when the saline draughts should be continued.

No. 11. Of bicarbonate of potash . . . 24 gr.
Tartaric acid . . . . . 20 gr.
Tartrate of potash . . . . 2 dr.
Distilled water . . . . . 1 oz.
Simple syrup, or syrup of orange-peel . . . . . 1 dr.

Dissolve the bicarbonate in the water, add the tartaric *acid, and* when effervescence has ceased, add the tartrate *and syrup.*

As soon as the bowels have acted sufficiently, withdraw the tartrate of potass, and continue the remainder.

For the headache, apply evaporating lotions to the forehead, and if it be violent, six to ten leeches, according to the apparent strength of the patient, may be applied, though they are better avoided, when the streak on the tongue covers a considerable extent of it, and assumes more and more a dark brown colour; for then typhus probably impends.

The headache is, however, sometimes so violent as to force us to resort to leeches. If so, apply them in parts where efficient pressure can be made on the leech bites, should they bleed too profusely. Leeches will be again alluded to, and directions given how to manage them.

An evaporating lotion will prove grateful and soothing to the feelings.

Cooling and Evaporating Lotion.

No. 12. Of rectified spirit of wine . . 1 oz.
Water . . . . . 7 oz.

Apply cloths wetted with this to the forehead, temples, &c., and renew them as they become hot. For the spirit of wine, Eau de Cologne may be substituted.

Some medical practitioners have recommended our throwing repeated buckets of cold water over the patient, and consider this affusion a great agent in cutting short the fever at its commencement; but the author has never seen it effect this, for he believes with many others, that we can guide a fever, though we cannot cure it. He has seen great benefit derived from this affusion when the heat has been much and steadily above the natural standard; and in some cases, of 8 or 9 days' continuance, he has believed it had caused a critical change towards recovery.

The surface of the body may be sponged with cold water, so long as it remains hot and dry.

The drinks may be barley-water, toast-water, &c. See management of the sick room.

Sometimes this fever is complicated with an inflammatory state of brain, chest, or abdomen; but such states will be mentioned in the portion devoted to Typhus.

If the signs of high action—namely, a very hot skin, flushed face, injected eyes, and throbbing at the temples, seem to yield rapidly, or to change into those of nervous depression, to be shortly described; then for the saline

draughts just recommended should be substituted any one of the tonic infusions, the compound infusion of gentian, of orange-peel, or of calumba.

To one ounce of each, or either of these, thirty grains of bicarbonate of potash or of soda may be added; and if much languor and depression prevail, twenty to thirty drops of sal volatile may be added, or these ammonia draughts taken instead of them:—

No. 13. Of sesquicarbonate or bicarbonate of ammonia . . . . ℈iv. = 80 gr.
Lemon juice . . . . 3 oz.
Or citric acid . . . . 96 gr.
Or tartaric acid . . . 100 gr.
Water . . . . . ℥vss. = 5½ oz.
Syrup . . . . . ½ oz.

A fourth part for a dose 3 or 4 times in the 24 hours.

If the draughts are desired to be taken while effervescing, dissolve twenty-four grains of the citric acid, or twenty-five grains of the tartaric acid in water, and add to it a fourth part of the mixture of ammonia, water, and syrup.

Of the lemon juice, six drachms, or three-fourths of a fluid ounce, would be required to neutralize the ammonia contained in a fourth part of the mixture. This is a very pleasant and grateful medicine, whether taken during effervescence or not.

Typhus Fever.

Putrid, or Spotted, or Maculated Fever,

Is divided into the mild and severe species, differing only in the intensity of the symptoms.

This fever is a desolating scourge in England, and carries off many victims during the year.

Symptoms.—As the inflammatory fever may pass into the form of mixed fever, so this latter merges into typhus.

Typhus is characterized by a compressible, somewhat frequent pulse, with no great increase of the animal heat—extreme debility—and more or less of disturbance of the mental functions.

General languor and lassitude—the tongue shows from the commencement a brownish streak down its middle, while its other portions may be of a dusky red—there is loss of appetite—thirst—drowsiness—sleep disturbed by

dreams or slight wandering—the eyes lose their usual bright appearance, and present a suffused muddy aspect—the bowels may be loose—the urine scanty, high coloured; with a bad smell—immoderate sweating in some cases—which are succeeded by delirium—coma (a state of unnatural sleep)—the stools are passed involuntarily—the extremities become cold—the hands seem to pick the bedclothes—hiccup—there are startings of the legs and wrists—convulsions—and death closes the scene.

The symptoms during the first 7 or 8 days are those usual in fever, with disturbance of the nervous functions, and muscular disability or weakness superadded.

After this time, if not before, the teeth are incrusted with a dirty-looking deposit, very characteristic—the pulse becomes weaker and weaker; feeling to the finger, as if a small column of water fluctuated under it—the tongue is drier and browner—the headache leaves the patient—but the delirium, hitherto only observable at night, or after sleep, shows itself during the day—the voice is feeble—the power of swallowing difficult, perhaps lost—and the patient lies on his back, not having strength to turn on his side. The patient lies thus, rambling and muttering continually, and though he may be roused for a time, yet he relapses. About this time, too, a rash appears, of small blotches, roundish, and scarcely raised above the surface of the skin—with these, purple spots, like flea-bites, appear; but they are distinguished from flea-bites, by the absence of the mark of the central puncture made by the flea. These spots vary in size from that of a pin to that of a crown piece. If there is copious sweating, an eruption may in some few cases be observed of small elevations of the cuticle, which, when viewed sideways, look like drops of water on the skin. These usually dry up, the cuticle is wrinkled, and a whitish powder remains.

During this stage, the second as it may be called, an inflammatory state of either head, chest, or abdomen may occur, and seriously add to the danger. These are called the consecutive or secondary affections in continued fever.

When the head is thus attacked, there are dingy redness of the countenance—heat of head—the suffusion of the whites of the eyes is greater than usual—and the stupor and delirious muttering are more observable.

When the chest is attacked, there is a sort of suppressed dry cough, and the breathing is more impeded than usual.

The stethoscope at once reveals to us the state existing. There may co-exist an ulcerated throat.

The abdominal attack is characterized by tenderness or pain at the pit of the stomach—and if the bowels are also suffering, there will be pain on pressure, with a discharge from the bowels of yellow, ochre-looking stools—and the belly is distended like a drum. The liver may be implicated, and jaundice present.

About the end of the second week the symptoms may become milder, and a favourable change may now take place, leading to recovery—if not, during the third stage, the patient lies at last almost like a log of wood, discharges of blood from the bowels occur, and the worn-out patient dies.

Relapses are frequent, and may easily be brought on by want of care to avoid cold, improper diet, or any of the causes of fever. The constitution may be left in a weak state, the legs or ankles swelled, and other diseases may follow as sequels to this terrible fever.

Causes.—Those who are weak in body, and susceptible or irritable in mind, are disposed to suffer: all over-exertion of mind or body, the depressing passions, poor living, intemperance, dissipation, cold, wet, filth and filthy exhalations from putrefying or decomposing animal and other matters; these last are the most fruitful sources of typhus; and persons have been seized soon after exposure to the miasms or vapours from cesspools, sewers, &c. The immediate or exciting cause is contagion.

Treatment.—The treatment of the first stage is that already described in mixed fever, only that the tonic infusions must be taken at a very early period.

The strength must be husbanded in every way, to enable the patient to go through the later exhausting stages.

Cold douche of the head, evaporating lotion, ice to the head: affusion of cold water may be tried in the first day or two, cold sponging as long as it is agreeable to the sufferer. The bowels should be opened by a pill, consisting—

No. 14. Of blue pill . . . . . 2 grs.
Compound extract of colocynth 3 grs.

Then a Seidlitz powder, if the pill do not operate *effectually*; after these, purgatives need scarcely be

repeated, but lavements or clysters of warm water may be occasionally thrown up to clear the lower bowel.

So long as the stage of excitement lasts, so long as great heat of skin, a tolerably strong pulse, beating at temples, continue, the saline draughts may be given; but soon we shall observe the on-coming of symptoms, indicative of the putrid tendency of the fluids; wherefore, as the weakness increases, we must add stimulants to the treatment, and lean wholly upon them.

No. 15. Camphor mixture with magnesia.

Of Camphor	10 grs.
Carbonate of magnesia . .	25 grs.
Water	6 oz.

Rub the two first together, and add the water gradually. To these six ounces add half-an-ounce of spirits of compound sulphuric ether, and half-an-ounce of syrup, simple, or of orange-peel.

Of this, two table-spoonfuls may be given every four hours; but as the disease progresses, and prostration becomes more and more evident, we must give quinine.

No. 16. Of sulphate of quinine . . . 2 grs.
Dilute sulphuric acid . . . 5 drops.
Syrup, or syrup of saffron . 1 drachm.
Water . . . . . 1 oz.
Every fourth or third hour.

Great restlessness may be restrained by adding five or **ten drops**, or more, to one of the quinine draughts at **night**. If opium disagree—that is, increase the heat, **restlessness**, and muttering, administer a lavement of **twenty drops** of tincture of opium in water.

If looseness of bowels exhaust, give astringent mixtures. *See* DIARRHŒA.

According to the prostration, we must give dilute wine **with sago**, arrowroot, and even calves' foot jelly, veal or **chicken broth**, beef tea, &c.

Wine is seldom required during the first week, but it **may be**, and if it be given too soon, any clear-sighted **observer** will soon see the prejudicial effects, in the increased heat, pulse, thirst, headache, &c. As to quantity, however cautiously we may begin, we must go on boldly, **though always** watching *effects*. Two or four ounces may

be the first day's portion, but it may be increased to half a bottle and even two bottles a day; and in extreme cases a quarter or half-pint of brandy should be added.

The urine should be watched daily, as it is sometimes retained; when retained, it should be drawn off by an instrument.

The patient lying on his back, motionless, often occasions a fretting of the skin, which ends in mortification sometimes, and proves a great danger to life, when the fever itself might not be fatal. To prevent this, Dr. Arnott's water-bed is effectual, or Mr. Hooper's (of Pall Mall East) excellent cushions, of most useful form, which, indeed, are preferable to the bed, because they are very portable. They can be filled with water, and emptied at any time. No one should travel or reside abroad without one of these cushions, which may make the difference between life and death. Painting the reddened back with the alcoholic solution of iodine, once daily, has prevented mischief; and Dr. McCormack recommended, in 1839, a varnish of camphor spirits, of lime, and of beeswax. The parts affected are to be coated with this, one layer as soon as the former is dry, up to six layers. Thus, he says, a sort of cuticle is formed, and the inflammation is prevented from spreading.

To the secondary or consecutive affections, little can be done by the unprofessional reader, for a mixed treatment is often required, which demands long experience, and much judgment too, even in the professional practitioner.

All excretions must be removed as soon as possible, and chloride of lime or soda solution should be in the bedpan, or it should be sprinkled over the floor, cloths wetted with it hung up about the room. But, above all, pure air (if it can be got) and ventilation are essential; and cleanliness must be enforced in every possible way.

And, lastly, never give up a hope of recovery until death has closed the scene: for the writer can recall to mind cases where the relatives, and even in one case where his brother medical attendants had refused to force down, as they said, any more medicines, wine, &c., when he has had to moisten the lips and the dry dark tongue, before he put the quinine, mixed in a little jelly, into the mouth, to be *washed down* by wine and brandy mixed, and given very *cautiously*, lest suffocation might ensue. Several such *patients* have been clutched, as it were, from the very

grasp of death, and even were the power of deglutition gone, he would still try what might be done by lavements. One recovery amply repays all such labours.

Ague, or Intermittent Fever,

Consists of periods of fever, called paroxysms, with perfect intermissions between each, during which intermission there is no fever.

The species are—

The Quotidian, having an intermission of	24 hours.
Tertian	48 hours.
Quartan	72 hours.

The paroxysm consists of three stages—a cold, a hot, and a sweating stage.

Symptoms of the Cold Stage.—Sense of debility—languor—yawning—paleness of face and coldness of surface—the body seems to shrink in bulk. This coldness commences in the back—often head-ache—pulse small and frequent—the breathing short—shivering and goose skin—drowsiness and stupor.

After this state has lasted a longer or shorter time, the hot stage commences with increase of heat over the whole body—redness of face and skin, the latter dry—pain in head—anxiety and restlessness—the tongue furred—pulse hard and full—perhaps delirium.

To this, succeeds the sweating stage. A moisture breaks out about the head, the entire surface of the body at last perspires, the symptoms of the hot stage give way, and all fever leaves for the time.

The tertian prevails most in spring, and mostly commences about noon; the quartan in the autumn, and commences in the afternoon usually: the quotidian occurs in the morning, and changes into a remittent or continued form more frequently than the others. Tertians and quartans may become quotidians.

The quartan has the longest cold stage, the tertian the longest hot.

Causes.—Whatever debilitates, predisposes; also cold united with moisture. The exciting cause is marsh miasm or vapour from stagnant water or marshy ground, in which vegetable matter lies in a state of decomposition.

But stagnant water alone will not cause ague. There is much more rain in the western counties of England, yet agues are hardly to be met with there, nor are flooded districts liable. The delta of the Nile is free from ague. Stagnant water will not produce agues, nor running water, if the one lies and the other flows over *fresh* vegetable matter. The vegetable matter at the bottom must be in a state of decomposition. Many of the Irish bogs will not produce febrific miasms, perhaps because they contain more or less of bark. Salt water will not cause ague, when running or lying over what seems a malarious bottom; the water must be fresh and stagnant, or nearly so. The salt water marshes around Venice do not excite ague, and near Minehead, Somersetshire, there is a salt water marsh, four miles in length and one in breadth, yet no ague exists there.

The common rush, juncus vulgaris, the iris lutea, and some others, growing in a place, would indicate a probability of ague being there endemic or prevalent. Sometimes the base of a mountain will be free from ague, yet the table-land at its summit infested by it, as at Pamphill, Wimborne, Dorsetshire.

The writer had to treat some very obstinate cases in Spanish Estremadura, which seemed to have been caused by the dried-up gravelly beds of a river.

The average period of incubation—that is, the period between exposure to the cause and the attack of the ague—is from thirteen to thirty-nine days, though Dr. Bateman recites instances where three months had elapsed before the ague commenced.

The quartan is the most dangerous form, on account of the spleen sometimes becoming enlarged.

Treatment.—During the cold stage, artificial warmth, hot water to feet or the warm bath, dry heat to pit of stomach or the back, warm drinks, a saline draught every half hour.

In the hot fit, the patient must be kept cool, saline draughts still. If there is delirium or coma (a state like sleep), cupping or leeches, cold affusion.

In the sweating stage, wipe the patient dry and keep him cool.

During the intermission, antiperiodics must be given, *and the best* of all is the sulphate of quinine. The following will seldom fail:—

No. 17. Sulphate of quinine (to be increased to 3 or 4, if necessary) 2 gr.
Dilute sulphuric acid . . . . 4or5drops.
Simple syrup, or syrup of orange-peel . . . . . 1 dr.
Water . . . . . 1 oz.

Every four or six hours during the intermission.

If the ague do not yield, there may be some internal congestion, when a pill, containing a grain of calomel, every night for eight or ten days, might help.

There are other antiperiodics, such as arsenic, but it would not be safe for any one but a medical man to prescribe it. When the spleen becomes enlarged, forming ague-cake, as it is called; for treatment, *see* SPLEEN.

REMITTENT FEVER,

Or bilious fever, or bilious remittent, called bilious, because it is often complicated with derangement of the liver.

This fever arises from causes similar to those of intermittent fever. There are evident and distinct exacerbations and remissions when the intensity of the fever seems to diminish; but there is no complete interval when fever ceases. One exacerbation (that is, increase of symptoms, resembling a paroxysm) does not go off entirely before a fresh attack ensues.

Remittent fever does not very often occur in these countries; but in hot or tropical climates, it is common and very deadly in its effects. On the Gold Coast it is very fatal to Europeans.

The symptoms vary with the season of the year, and the constitution of the patient. Sometimes there is vomiting of bilious-looking fluid, sometimes the symptoms of synochus, and at others of a putrid or typhus type prevail.

Treatment must vary according as the symptoms of excitement or of nervous depression, or of severe typhus are predominant. The saline draughts as before ordered, cold spongings to head for headache, and to skin; leeches, if necessary, for headache.

A great point is to procure bilious motions by

No. 18. Calomel . . . . . 2 gr.
Compound extract of colocynth iij gr.

Make one pill, to be taken at bed-time for two successive

nights, and the following morning give two tablespoonfuls of the Epsom salts and senna mixture, ordered for inflammatory fever.

As soon as the secretions are amended, the fur on the tongue is diminished, and the paroxysmal increase of signs becomes more marked, then quinine must be directly resorted to, and the quinine mixture ordered for ague administered; beginning with one-grain doses of the quinine. If the mixture disagree, the quinine might be made up into pills, and so tried; giving saline or soda draughts at same time.

But if the heat of the scalp or head have not given way, and the pulse remain high and frequent, the quinine will be premature.

If the symptoms of severe typhus come on early, our treatment as to stimulants, medicine, and wine, must correspond; and too much time must not be lost before administering them. If our treatment be doing good, we shall soon perceive a corresponding amendment in the fever.

Yellow Fever—Typhus Icterodes.

Symptoms.—Lassitude—chilliness—faintness—giddiness—flushed face and red eyes—pains in the forehead—in the back—debility—sighing—thirst—urine scanty and high coloured, turbid—clammy mouth, dark fur on tongue—coma, or a tendency to it—vomiting of bile—dry hot skin.

Then the eyes become of a deep yellow, also the face and body—great retching—costiveness—delirium—pupils of eyes permanently dilated.

This first stage may last thirty-six or forty-eight hours, when slight amendment may ensue, but only for a short time; for all the symptoms return in an aggravated form, and evidence is afforded of putrefaction almost general; a dry black tongue—large patches of livid colour—dark fur on the teeth—offensive breath—blood from mouth—ears, nostrils—dark and fetid stools—black vomit—hiccup—death.

Yellow fever differs from typhus, in prevailing only during or after very hot seasons, in which typhus is soon extinguished, and in being extinguished during cold weather, in which typhus prevails, if there be coexistent humidity of atmosphere. It differs from the plague in *that the latter* is destroyed or stopped by very hot weather; *thus the plague* is unknown in intertropical climates, which *are so favourable* to yellow fever.

It attacks by preference the young and robust, and men rather than women. It sometimes changes into a remittent, and sometimes to an intermittent, which typhus never does.

The black vomit is of an acid nature, and may depend upon the action of the gastric acid on the irritating secretions poured into the stomach during life, and thrown off in the shape of black vomit. Dr. Rolt, of Mobile, near New Orleans, produced an artificial vomit by taking a few drachms of blood from a body dead of yellow fever, and adding to them four or five drops of muriatic acid, and a drachm or two of water. On shaking these together the black colour was instantly developed.

Treatment. Purgatives are useful in all cases.

No. 19. Of Calomel . . . . 5 grs. to 10 grs.
Camphor . . . . 3 grs. to 10 grs.
Capsicum . . . 2 grs. to 5 grs.

If this did not act, a drop of croton oil may be given in half a teaspoonful of gum arabic mucilage. Then

No. 20. Calomel . . . . . ij grs.
Camphor . . . . . 4 grs.
Pure opium . . . . . ½ gr.

may be given every four or six hours.

But stimulants are to be mainly relied on, as exhaustion and prostration advance; champagne, half a tumbler full every hour, will often quiet the vomiting; and this should be alternated with brandy in farinaceous food.

Impending fatal sinking must be warded off, and quantity must not be regarded. In some cases, two bottles of brandy have been consumed in the twenty-four hours.

If any amendment ensue, support the powers as much as possible.

For Infantile Gastric Fever, *see* Section on Diseases of Children.

For Hectic Fever, *see* Consumption.

Inflammation

Is of two kinds—*phlegmonous* and *erysipelatous*.

By phlegmonous, is understood an inflammatory circumscribed affection of the skin, with more or less of swelling, of bright red colour, pain and distension; whilst erysipelatous is characterized by its tendency to spread over the

skin or over the surface of membranes, by its attacking different parts of the body, either simultaneously or by metastasis, and by its contagious and infectious character.

Phlegmon is seated in the true skin, at its inner surface; and it soon extends to the adjoining parts of the cellular membrane, the swelling thus extending in all directions. Shooting and throbbing pains, with a full hard pulse, and great thirst, attend. It terminates either in resolution (gradual disappearance), or else matter is formed, or some effusion or adhesion, or else gangrene results.

Causes, predisposing.—Too great fulness of body; excess in eating or drinking; the sanguine temperament; defective or disordered action of the liver, kidney, or skin; whereby the blood is not adequately purified. The exciting causes are, chemical or mechanical injuries, over exertion, &c.

Treatment.—Our object is to procure resolution as a termination—the happiest result. This is to be done often, by bloodletting, purgatives, cold applications, and low diet. The bloodletting should be according to the symptoms of vascular excitement, and if any one is near, who can be trusted to bleed, blood should be taken from the arm until the patient feel rather faint. Then the calomel blue pill and colocynth pill, ordered in the treatment of inflammatory fever, should be given; and its free operation secured, by adding 1 dr. of Epsom salts to each saline draught, to be taken every four hours till the bowels are free. Then omit the Epsom salts, and continue the saline draughts, with one-sixteenth of a grain of emetic tartar in each draught, while the bowels are to be kept acting freely. Cold applications should be made by means of a single piece of fine linen frequently changed, and the vapour must be allowed to pass off freely, or the cold application soon changes into a warm fomentation. But frequently cold applications either cease to give comfort, or they actually add to irritation, in which case tepid applications (85° of Fahrenheit) must be selected; they do not stimulate like heat, and they do not occasion painful reaction like cold.

Leeches may be applied near to the inflamed part, after the blood-letting, if necessary; and if no blood be drawn by the lancet, some fourteen to twenty leeches should be applied.

If in spite of all these, the part throbs, and perhaps the *patient shivers*, then suppuration is coming on. Then *warm fomentations* (of 92° to 98° Fahrenheit) are pre-

ferable; they relax the skin and soothe the pain. When the swelling shows a thin projecting part, it soon bursts, or it may be opened; the matter is discharged, and after a few poultices the part heals, if the patient's constitution be good.

During the whole time, the inflamed part must be kept strictly at rest, and raised above the level of the body, if the swelling is situate in either of the legs or arms.

If these measures to promote resolution are not successful, and suppuration do not ensue, the part may terminate in gangrene or mortification, then the inflammatory redness assumes a darker tint, even to purple and blue—the heat, sensibility, and pain, leave the part, though it may rather increase in size—and serum is effused, which serum sometimes exudes through the skin, and forms blisters on the cuticle. If the gangrene do not stop, the parts become soft, cold, and corpse-like, emitting fetid odours, as from a dead body in a decomposing state; but if it be about to stop, the dark colour is no longer diffused; but a healthy circulation is re-established up to the very portion of the gangrened skin, and a bright red line, called the line of demarcation, separates the living parts from the dead.

Our treatment of gangrene must depend on the state of the patient; if he is young, and of vigorous habit, with pulse still full, hard, and strong, then still we must bleed, purge, and give salines, applying leeches and fomentations locally. But if the pulse be quick and feeble, and vital power seem deficient, then wine and opium, beef-tea, and other fluid nutriment. For medicines, the bark, sulphate of quinine, ammonia:—

No. 21.	Of sulphate of quinine . . .	2 grs.
	Tincture of opium . . .	2 to 5 drops.
	Compound spirits of ether	½ dr.
	Compound spirit of ammonia	½ dr.
	Decoction of bark . . .	1 oz.

Three or 4 times in the day. Or this:—

No. 22.	Decoction of yellow bark . .	7½ oz.
	Sesquicarbonate of ammonia	½ dr.
	Syrup	½ oz.

A sixth part two or three times a day.

If the *opium and wine are doing* good, the delirium and *restlessness are diminished; if* these symptoms are in-

creased, discontinue or give less of the wine or opium. The dose of opium is forty drops of the tincture at night, and the wine can be tried as was recommended in typhus. For local applications the yeast poultice thus made, or one of the two following:—

No. 23. Take of beer yeast, and water heated to 100°, of each . . . . . 5 fluid oz.
Flour . . . . . 1 lb.

Mix the yeast with the water, and add the flour, stirring the whole.

The Charcoal Cataplasm.

No. 24. Of boiling water . . . . . 10 fluid oz.
Bread . . . . . 2 oz.
Powdered linseed . . . 10 dr.
Powdered charcoal . . . 3 dr.

Let the bread stand in a little water near the fire, then mix it. Add the linseed by degrees, stirring the whole into a poultice. To this mix in two drachms of the charcoal, and sprinkle the rest over the surface.

Cataplasm of Chlorinated Soda.

No. 25. Of boiling water . . . . . 6 fluid oz.
Powdered linseed . . . 4½ oz.
Solution of chlorinated soda 2 fluid dr.

Constantly stirring, add by degrees the linseed to the water, then mix in the chlorinated soda.

This last corrects the fœtor of the discharge, or of the gangrened part.

ERYSIPELAS. *See* DISEASES OF THE SKIN.

INFLAMMATION OF THE BRAIN, OR PHRENITIS,

May begin with acute pain in the head and delirium, or with bilious vomiting, or with convulsions. The symptoms are sharp head pain—throbbing of the temporal arteries—brilliancy of eyes—contracted pupils—very red face—sound and light cannot be borne—watchfulness—hot and dry skin—dry tongue with a white fur—violent delirium—*great thirst*—nausea, and vomiting—bowels confined. *After two or three days*, convulsions are followed by stupor *and low muttering*—the eye loses its sight—and the pupils

dilate—then palsy—twitchings of the muscles—involuntary passage of stools—urine retained, perhaps—cold sweats and death.

Duration to two or three weeks, and the terminations are recovery, palsy, or insanity.

Causes.—Coup de soleil, or exposure to strong heat, bearing down on the head, irritation of stomach, intemperance, suppression of habitual discharges, and of other diseases, dentition in some persons.

Treatment must be prompt and decided. Copious and repeated bleeding from the arm, and blood is to be extracted unto approach of fainting; then cupping or leeches to the temples.

Active purging with the salts and senna mixture, or by a drop of croton oil put on the tongue.

Then give these powders—anti-inflammation powders.

No. 26. Calomel . . . . . ℈ijss. or 50 grs.
Tartar emetic . . . . 1 gr.
Mix well, and add powdered gum arabic ʒj. or 60 grs.

Mix all well together, and divide into sixteen equal doses. One to be taken every four hours, until signs of the mercury affecting the system become manifest. These are a swelling of the gums—the upper edge swelling—and showing a white line—fœtor of the breath—a coppery taste in the mouth, and flow of saliva.

Then discontinue the powders immediately, and give saline draughts, using a gargle composed of

No. 27. Tincture of myrrh . . . . . ½ oz.
Of catechu . . . . . 3 drs.
Honey or honey of roses . . . . ½ oz.
Water . . . . . 7 oz.

Mix. To be frequently used.

When the signs of excitement give way, and stupor and other signs of the second stage exist, a blister to the shaven head; and if there is great weakness, give wine, ammonia, with beef-tea, &c.

During the earlier period, cold lotions to the head, or ice, are useful and agreeable.

The diet must consist strictly of drinks, and nourishing articles must be excluded.

The urine should be drawn off, if not passed every day.

Inflammation of the membranes of the brain requires a similar treatment.

ACUTE HYDROCEPHALUS, OR WATER IN THE HEAD.—*See* DISEASES OF CHILDREN.

OPHTHALMIA, OR INFLAMMATION OF THE EYES.

This inflammation shows itself under the forms of catarrhal ophthalmia, purulent ophthalmia, strumous ophthalmia, rheumatic ditto, and gonorrheal ditto.

OF CATARRHAL OPHTHALMIA.

Symptoms are—redness of the whites of the eyes—flow of tears—the light causes annoyance—pricking pain, as if some foreign body were within the eyelids—eyelids glued together after sleep. The redness begins at the circumference, and proceeds gradually towards the centre; if it pass over the transparent part (the cornea) the sight will be interfered with, more or less.

Slight febrile symptoms usually accompany this state of things.

Causes are—cold air applied to the part; lime, and other foreign bodies getting between the eyelids; exposure to a strong light; wet and cold.

This catarrhal form is distinguished from the purulent by its being milder, and noncontagious; from the strumous and rheumatic by signs to be presently detailed. Unless the eyelids have become thickened, from repeated attacks, this form soon yields to proper general and local treatment.

Treatment.—If there be any catarrh present, we must give what is recommended in catarrh; but in many cases, local treatment will alone suffice. Warm fomentations of poppy heads, constantly applied with gentleness, a purging draught, and light to be excluded. As the inflammation diminishes, we should advise an eye-water of

No. 28. Nitrate of silver . . . i gr.
Distilled water . . . . ℥ij, or ½ oz.

Of this solution, drop one drop into the inner angles of the eyes about twice a day.

To prevent the eyelids from being glued together in the morning, smear some spermaceti ointment between the eyelids every night, or any other simple unirritating ointment.

If there be any headache or feverishness, leeches or *cupping at* the temples, or at back of the neck; with *fever medicines*, as in INFLAMMATORY FEVER.

Purulent Ophthalmia of Adults.

This form of ophthalmia occurs also in children. It is severe in both adults and children; but in the grown-up person it requires early and decided treatment, or vision may be lost.

This is the form of Egyptian ophthalmia.

There is intense inflammation over the white of the eye, and it is accompanied by a great deal of discharge. It sets in much in the same way as all inflammation does in the eye, with a sensation as if sand were there—then the vessels form rapidly on the white part of the eye, which becomes of a bright red, while the lids are swollen.

This form has a tendency to attack the deeper-seated structures, and if it does extend so deep, severe pain is felt, with a feeling of tension of the whole globe of the eye; the pain is aggravated at intervals, and is always more severe at night; some fever accompanies.

Causes—are the common causes of inflammation; and contagion.

Treatment.—If the patient has been neglected, or if the disease be severe, loss of sight may be expected. Here venesection is imperative, and unto fainting, too. Then a dozen or twenty leeches should be applied to the temples, or around the orbit, and the bleeding encouraged.

The eyes should be often sponged, and the matter gently wiped off. The enlarged vessels on the whites of the eyes, and on the inner eyelids, may be scarified with a lancet point or sharp penknife, and this often gives great relief. Warm fomentations, or cold light bits of linen, may be applied, and the most grateful application is to be preferred.

For the fever signs—aperient and saline draughts are needful.

Diet, to be a decidedly low diet.

As soon as the redness and heat abate, inject between the eyelids a few drops of this solution every night, or night and morning:—

No. 29. Of nitrate of silver	10 grs.
Distilled water	1 oz.

To prevent mischief from contagion, the patient must be insulated; and all towels used by him must not be touched by *any one else.*

Strumous Ophthalmia

Is a form very frequently to be seen in England, and very obstinate it is to all remedies. It may attack all ages, though it is more frequently seen in children.

The constitutional marks of a scrofulous constitution will be detailed hereafter.

The signs of this form differ from those of catarrhal ophthalmia, by there being more lachrymation or weeping when exposed to the light—by little pustules being sometimes formed on the transparent part—and it differs from the purulent form by its minor severity—the absence of the violent pain—and of the discharge.

Causes.—Similar to those of other kinds of ophthalmia, acting on a scrofulous habit of body.

Treatment.—The local treatment can be gathered from what has preceded—warm fomentations; but as the local excitement is accompanied by a want of power in the vessels, stimulant or astringent applications are soon admissible; leeches are seldom necessary. Wine of opium may be dropped into the eyes twice a day; or the nitrate of silver lotion. *See* Purulent Ophthalmia; only the solution must not be so strong as in that disease—five grains to the ounce of water will suffice.

Blisters behind the ears, if the disease is obstinate; occasional aperients, and quinine pills, one grain in each, to be taken three times a day, are recommended by one good authority, as of extraordinary efficacy; and the writer also has found them very efficacious.

Rheumatic Ophthalmia.

This inflammation is attended by violent pain around the orbit, extending downwards, and even to the ear, and this pain is more severe at night—there is a yellowish-red tinge of the whites of the eye, and the cornea, or transparent part, may become cloudy. The feeling as if there were sand in the eye is not present—and the enlarged vessels run in straight lines from the circumference of the eye—the tinge is pink rather than bright red, as in the *catarrhal* form—there may attend, more or less, of fever. *Sometimes,* however, the catarrhal and this form are co-*existent in the* same person.

Treatment.—Bleeding from the arm, or by cupping, or *by leeches, is* necessary in the more acute cases. The bowels

are to be opened by a salts and senna draught; then these draughts should be given—

No. 30. Wine of the seeds of colchicum 20 drops.
Bicarbonate of potash . . . 20 grs.
Syrup . . . . . 1 dr.
Water . . . . . 1 oz.

three or four times a day.

For a night draught, from 15 to 30 drops of tincture of opium should be added.

If the inflammation continue severe, give

No. 31. Of Calomel . . . . . iij grs.
Compound ipecacuanha powder, or Dover's powder . 5 grs.

every night and morning; to be given in thick gruel, or mucilage. These should be continued till the gums begin to swell, or the breath to smell.

The forehead is to be rubbed every afternoon and evening with

No. 32. Extract of belladonna . ʒss. or 30 grs.
Warm tincture of opium 6 drachms.

Blisters behind the ears.

Dry warmth to the part; bags filled with hot bran, &c.

When the symptoms yield, give the tonic infusions, or quinine—quinine is to be preferred.

Gonorrhœal Ophthalmia

is caused by the application of gonorrhœal matter. For treatment, *see* Purulent Ophthalmia; only we may add 20 drops of balsam of capivi to each saline draught.

Inflammation of Tongue, or Glossitis.

This is a rare disease, although it sometimes accompanies inflammation of the larynx or windpipe. It becomes very large in some severe cases, and fever of high excitement attends.

Here no medicines can be swallowed. Blood must be drawn from the arm, and leeches applied under, and close to, the lower *jaw; but the* remedy which seems to have *averted suffocation sometimes,* is scarifying the tongue, or *making a tolerably deep* incision into it.

Inflamed Tonsils, or Tonsillitis, or Cynanche Tonsillaris.

This disease occurs not unfrequently in this climate, and, on inspection, we find the tonsils swollen, and the whole circumjacent surface very red and swollen. It begins with chills, &c., as fever does. Swallowing becomes first difficult, then at last impossible. The pain shoots into the ears—a thick ropy mucus and saliva are observed in the mouth. The tonsils are so swollen in some cases as to meet together. Ulcerations are formed in various points.

Causes.—A scrofulous habit—the usual causes of fever and of inflammation. The same persons are often attacked by this disorder. Such persons should avoid standing on wet ground, and also cold and humidity.

Treatment must be vigorous; bloodletting, according to the intensity of the febrile symptoms, and to the powers of the patient. The back of the neck may be cupped, or leeches applied there, and the tonsils themselves scarified. Active purgation.

A state of nausea (feeling of sickness) should be kept up by dissolving

No. 33. 2 grs. of tartar emetic in 4 oz. of water, and a teaspoonful of the solution, given every hour, until the nausea has been maintained for about twenty-four or thirty hours. Then probably the state of excitement and the local swelling will have abated.

In slight cases, the measures need not be so vigorous. After a purgative, saline medicines should be given, and poultices applied as near as possible to the affected parts.

A blister to the throat, or back of the neck, is useful, after the high excitement and inflammation have abated.

If matter form in the tonsils, it will burst, or the collection may be opened by the lancet.

For the Malignant Sore Throat, *see* Scarlet Fever.

Mumps.

This somewhat specific inflammation, mumps, or inflamed parotid gland, may occur epidemically, and is *capable of* being propagated by a peculiar contagion.

Slight febrile symptoms are first observable—then stiffness of the jaws—and then a swelling in one or both parotid glands. The swelling increases till about the fourth day

from the commencement of the disease, and the gland is swollen, firm, and tender to the touch—the skin over it does not change colour, or else is only slightly inflamed. All the movements of the muscles of the jaws are very painful—mastication and swallowing anything are dreaded—the attending fever is mild, though nervous irritability and restlessness attend some cases.

Soon after the fourth day the swelling begins to decline—it then the breasts in females, and testicles in men, become swollen and hard. There is a gentle sweat on the skin—and the urine shows a deposit of red sediment.

Children and young persons are most liable.

Treatment.—Avoid cold; keep the parts warm. The bowels should be kept open, and perspiration encouraged by warm drinks.

Inflamed Larynx, or Laryngitis.

The ordinary precursor symptoms of fever are followed by sore throat—hoarseness—and dry, husky cough, coming on by fits of coughing. There is pain at the top of the windpipe, increased by pressure—constant hawking of a thick mucus—swallowing is painful. If the tongue be depressed, we can observe the epiglottis, or valve, at top of the windpipe, red and swelled—hot skin, and other signs of fever. Then more serious symptoms set in,—paleness and anxiety—expansion of nostrils—whispering voice—terrible efforts to breathe—the pulse becomes small and rapid—there are restlessness and anxiety, with a fear of being suffocated. Delirium and coma follow on, and death ensues.

This disease may be fatal in from twelve hours to four or five days.

This is one of the most terrible diseases that assail humanity; and the sufferings of the patient, the protracted wheezing of the inspiration, the paroxysms of harsh and husky cough, and the vain, agonizing attempts to obtain one good full inspiration, are painful to behold.

The celebrated Washington is said to have died of this disease.

Causes are the same as those of common inflammation. There seems to be a disposition to a recurrence of the disease, if a person have once recovered from an attack. Any ulcer about the *air-pipe may stir* up an attack also, under *favouring circumstances.*

Treatment.—Whatever is done must be done promptly and vigorously, for although the inflammation is confined to a very small surface, yet that surface is situated in a part, essential, indispensable to life. Thus, if hoarseness and pain in the region pointed out occur, immediate attention should be paid to them. If but for a short time the disease continue unrelieved, the patient dies poisoned by his own unaerated blood.

Venesection, the most vigorous that can be borne by the person, must be performed, and repeated; then leeches applied close to, but not on the part, and a blister to the upper part of the chest.

For medicines—

No. 34. Calomel . . . . . ℈ijss. = 50 grs.
Tartar emetic . . . j gr.

Mix, and divide into sixteen doses,—one every second or third hour, until the swelled gums or fœtid breath tell us when to stop.

Bloodletting, however, will, perhaps, only accelerate death. If performed after the full, bounding pulse, the hot skin, and other signs of inflammatory fever, have given way to signs that show the patient's blood is no longer aerated, and is overpowering the vital powers; wherefore, a cold skin, a small feeble pulse, blue lips, and leaden face, with wavering mind, indicate that the term for bloodletting is gone by—What, then, can be done?

Why—the air-passage must be opened—an incision or slit must be made in it. This sounds like directions for cutting a man's throat, yet nothing proves more salutary, when happily successful,—and the patient may thus be saved, for whom there was previously no chance of life. The incision should be made by the surgeon in the median line, an inch or two below Adam's apple—as the projection in man's throat is called.

Croup, or Cynanche Trachealis.

As this disorder attacks children most frequently, *see* Diseases of Children.

Catarrh, or Common Cold,

is an inflammation of the mucous membrane, which lines

the air-passages and the interior of the nostrils; but the complaint differs much, according to its site, as to danger.

When seated in what is called the Schneiderian membrane, which lines the nostrils and frontal sinuses, it forms what is called cold in the head, and what many call a mivelling cold.

This is very common in our changeable climate, and its symptoms are familiar to every one.

Treatment.—This cold may be stopped sometimes at once, and three or four days of annoyance may thus be saved, by taking, when going to bed the first night, from fifteen to twenty drops of tincture of opium or of laudanum. Some have succeeded in cutting short the attack by taking some hot wine negus,—perspiration has followed, and the cold has vanished. When the feverishness has gone, and the expectoration is thick and loose, we may often expedite the cure by a good dinner and a glass or two of wine; but we must be cautious, if the person is of plethoric habit, prone to inflammation of the chest, or to consumption.

The patient should keep in the house, or, if very feverish, in bed. He should live upon slops, take James's powder, put his feet and legs into hot water, and take an aperient.

A dry method of cure has been proposed by Dr. C. Williams, which is to act by cutting off the supply of watery materials to the blood. The wants of the system take all that can be spared from the circulating mass of blood, and nothing is left to feed the secretion from the nasal membrane—in short, the inflammation is starved away.

But to follow up this plan requires great energy and self-denial; for we are so used to our cups at breakfast and tea-time, that to have to confine our daily consumption of fluid to one table-spoonful of tea or milk, for the morning and evening meals, seems a task beyond our powers. The great advantage of this plan is that the person may go about and transact business the same as usual.

The best advice that can be given is to recommend persons who frequently suffer from these colds, to habituate themselves to the cold shower bath, or to sponging with cold water. The surface of the body is thus accustomed to a lower temperature than it is likely to meet with during the day. But these baths or spongings should be tepid at first and begun in the summer, and the water of *gradually reduced temperature* should be used until

the cold water can be borne. This is the best preventive of colds.

Bronchitis, or Cold and Inflammation of the Mucous Membrane of the Chest.

The Suffocative Catarrh of Children.

This is a threatening and often fatal disorder, especially fatal to the extremes of life, to young children and old men. Sometimes it rages epidemically, and then is called influenza; but as influenza has some features peculiar to itself, it will be described separately. Bronchitis is inflammation of the mucous membrane lining the air cells in the chest.

Symptoms.—Signs of fever—headache—inflamed eyes—oppression at the chest and impeded respiration—pains about the chest—expectoration, and the fluid ejected by a cough is a glairy mucus, which is transparent, and is so adhesive that if poured from one vessel to another, it will draw out like melted glass, and the more viscid, the more sticky these sputa are, the greater is the existing degree of the inflammation. Some froth is mixed with the sputa, and they may be streaked or dotted with blood. But after a time the mucus is no longer transparent, it becomes mixed with opaque, yellowish, whitish, or even greenish coloured masses, at first few in number, until the whole of the sputa consist of them. These denote a giving way of the inflammation, the difficulty of breathing and the feverish symptoms diminish, and recovery ensues, unless from some cause or other the inflammation is lighted up again.

When recovery takes place, the favourable change takes place from the fourth to the eighth day of the disease.

The disease may be of acute or chronic nature; the latter is attended with the following symptoms:—

It may follow the acute form, or it may commence as a catarrh, or common cold, the signs of which have been described; they return at first every winter, then they encroach upon the warmer seasons, until the patient, mostly middle-aged or old, is never free from considerable difficulty of breathing—while more or less copious expectoration of various coloured masses is constantly going on. This state has been called humoral, or moist, asthma,—or senile catarrh; but asthma is a peculiarly marked convul-

sive disease—a disease of the nervous system. In some patients, perhaps from co-existent irritation of stomach, a paroxysmal or convulsive state has been superadded to this chronic bronchitis, when it closely resembles humid asthma.

Treatment.—Blood-letting from the arm is not required unless the fever symptoms run high. Leeches may be applied to the chest, and a blister, but not over the leech bites.

Saline draughts (No. 3) every four hours, and to each draught about the sixteenth of a grain of tartar emetic may be added. To do this, dissolve one grain of tartar emetic in two ounces of distilled water, and add one drachm of it to each draught.

Diluent drinks *ad libitum*; barley water, or barley water gently acidulated with syrup of lemons, or one of the drinks hereafter to be mentioned.

But if the hot skin and high fever-symptoms, with increasing difficulty of breathing, lapse into dark coloured lips, and the expectoration continues sticky and tenacious, with difficulty of ejection, or bringing up, give

No. 35. Calomel . . . . . 24 grs.
Tartar emetic . . . . . 1 gr.
Powdered gum arabic . . . . 1 dr.

divided into twelve powders. One every four hours; but watch for redness or swelling of gums, fœtid or coppery-tasted breath, and stop the powders immediately; order a myrrh gargle, and if the powders purge, give mixture against diarrhœa. (*See* DIARRHŒA.)

These powders save the strength, while they combat the inflammation. The writer has witnessed recovery in many very alarming cases when these powders have been so given. When convalescent, and as the fever yields, the thirst, &c., give supporting broths, beef-tea; and if great languor or prostration occur, wine and stimulants must be resorted to.

The chronic form cuts off many old people, though by slow degrees. The treatment must be by expectorants and tonics, repeated blisters, mustard poultices, &c.

No, 36. Of Ipecacuanha wine . 12 to 20 drops.
Tincture of henbane . 20 to 30 drops.
Syrup . . . . . 1 drachm.
Tincture of opium . 5 drops.
Water . . . . . 1 oz.

every fourth hour.

But opium must here be given very cautiously, for it restrains the secretions always, and the expectoration must be encouraged and rendered free, or the patient will die. In proportion as the lips are livid, the surface cold, and the strength reduced, we must be cautious as to opium.

Influenza

Is a cold, with more or less inflammation of the mucous membrane lining the air passages of the lungs. It prevails epidemically, but is sometimes caught by infection.

The symptoms are those of cold and subacute bronchitis, mixed in varying proportions. The peculiar features are a languor and nervous depression, which are very remarkable—while there is coldness of the skin, or else cold perspiration. The symptoms are those already detailed in cold and in bronchitis.

Causes.—Special infection from atmospheric causes; also contagion. This epidemic has often been preceded by fogs, and follows nearly the same route as the Asiatic cholera does.

Treatment.—Here our treatment is varied, according to the prevalent state of excitement or depression. The saline draughts, and a dose of James's powder every four hours; but the author has found the greatest comfort afforded to patients by adding to each draught from fifteen to thirty drops of sal volatile. The cold feelings and cold damps on the skin are thus very much relieved.

The late Dr. Thos. Davies saved many persons labouring under this disorder in its severer form, from mercurializing the system, by giving calomel, one, two, or three grains, mixed with tartar emetic one-sixteenth of a grain, the strength being supported at the same time. This should be borne in mind in threatening cases. The author has not alluded to the use of auscultation by the stethoscope, as he is not addressing medical men.

Pneumonia, or Inflammation of the Lungs.

The usual precursory and other signs of fever, or pyrexia as it is called. High fever—hot skin—headache—quick pulse—and the peculiar signs are, pain in the chest, dull *rather than* acute—cough dry and short—expectoration *scanty and* mucous, which is soon tinged with blood, and *becomes* rusty coloured and thick—the breathing quick, *from fifteen* up to four or five and thirty in the minute.

This disease may decline about the fourth day, or it

[illegible] continue for twelve or fourteen days; but if the characteristic symptoms increase after the tenth day, and the difficulty of breathing, with livid lips, and paleness of skin, the event is likely to be unfavourable.

Treatment.—Bloodletting, if it can be done, is the shortest remedy; and it should be repeated two or three times within the first thirty hours.

Leeches in some quantity; a blister; the calomel and other emetic powders (No. 35), to be similarly watched as they were directed to be; saline draughts, and drinks.

As soon as heat of skin and quick full pulse subside, with free expectoration and greater ease in breathing [illegible], a gently supporting system is necessary. For a state of prostration, wine and expectorants, beef-tea, &c.

Inflammation of the Pleura.

The pleura is a membrane lining the inside of the ribs, which invests also the lungs.

The usual signs of fever, with a sense of weight about the chest. The distinguishing symptom, in conjunction with the fever-state, is a sharp pain in the side, spreading over more or less of the side, front, and even back. This pain is so sharp as to induce the sufferer to use the lungs as little as possible in breathing, and the breathing is a good deal effected by forced action of the muscles covering the bowels; the cough is short and dry—and the countenance is anxious—the pain is increased by inspiration, and by the cough.

About the fourth day the pain may abate and fever diminish.

Treatment.—Here, again, the treatment must be active, and not a moment is to be lost, or else the inflammation may end in the opposing surfaces of the membrane being glued together, or by the pouring out of a serous fluid, forming water in the chest, or of matter. The system should be put under the influence of mercury by the powders No. 35. Blood should be taken from the arm, even to fainting, or the blood should be suffered to flow until there is relief to the pain and breathing.

Leeches from twenty to thirty to the side affected.

Saline draughts, drinks, and low diet.

Inflammation of Stomach, or Gastritis.

This disease generally is caused by some irritation up-

plied to the coats of the stomach. The symptoms are of the usual febrile character already detailed; but there is a sharp, fixed, burning sort of pain at the pit of the stomach. It is increased by pressure, by whatever is taken into the stomach, and, in some cases, by the movements of respiration. There is frequent vomiting; everything swallowed being instantly rejected. The accompanying fever is of a low type, even though the inflammation continues—pulse is small and weak at a very early period. The strength is much depressed, skin damp, and features shrunken.

Life may be destroyed in from twelve to thirty hours—and during the last moments great restlessness, anxiety, hiccup, and drum-like distension of the skin at about the pit of the stomach.

Causes.—Acrid or poisonous substances taken into the stomach, drinking cold liquids when the body is heated, and in a state of exhaustion.

Treatment. — Notwithstanding the seemingly small, feeble pulse, venesection must be performed; the pulse will rise, or appear to beat fuller, as the inflammation is relieved. Then apply leeches over the pit of the stomach, and encourage the bleeding.

Ice, or iced-water, in small quantities, to be swallowed.

Keep the bowels open by clysters of warm water; or, if the bowels are confined, with clysters of warm water with Epsom salts, half-an-ounce dissolved in each.

Injections of starch, or gruel, four ounces, and thirty or forty drops of tincture of opium, may check the vomiting; so will one drop of hydrocyanic acid in about three teaspoonfuls of water.

Gruel, linseed tea, barley water, &c., for drinks, in very small quantities at a time.

There is a subacute gastritis which will be noticed under Indigestion.

Inflammation of Bowels, or Enteritis.

This may begin with signs like those of colic, but very soon those of fever set in—furred skin, thirst, &c. The characteristics are acute pain, increased by pressure, *which mostly* relieves colic pain—nor does the pain relax *or intermit as* in colic—the pain, too, is increased by any *movements of* the abdominal (belly) muscles, wherefore *the knees* are drawn up to relax those muscles. We

have seen in pleurisy that the patient breathes by the abdominal muscles, and the ribs are as motionless as possible; here the breathing is by the chest muscles as much as possible; in colic, the mode of breathing is not altered, and the patient tosses and turns about, whereas in enteritis he lies as quiet as possible.

There are nausea and vomiting to a distressing degree, both when anything is admitted into the stomach, and, when the stomach is empty—costiveness.

If the pulse at the outset is full and strong, it soon becomes small, and like a wire under the finger: it intermits,—the features seem to shrink—the legs grow cold, hiccup comes on, and drum-like belly—the pain relaxes, but cold sweats break out, and death soon terminates all suffering.

Treatment.—Notwithstanding the small pulse, bleed and leech. As all liquid medicines will increase the vomiting, give no draughts, but

No. 36. Of Calomel . . . . . 3 grs.
Powdered Opium . . . . . 1 gr.

every four hours, watching the effect.

We must try to remove costiveness by lavements of warm water, and not to give any aperients by the mouth until the acute stage has passed away.

If we see a case where the small weak pulse is accompanied by drum-like distension of belly, by coldness of skin, &c., we must not bleed, nor lower the powers at all.

Inflammation of the Peritonæum.

The Peritonæum is a membrane lining the interior of the muscles over the abdomen, or belly; but the symptoms and treatment are nearly the same as those of enteritis.

Inflammation of the Kidney.

With the usual febrile signs, there is a pain in the back corresponding to the region of the kidney, shooting down to the groin—the testicle is sometimes drawn upwards, the pain is deep-seated, dull, increased by firm pressure, by the erect or sitting posture, and sometimes by coughing or sneezing. The sufferer lies on the affected side, with the corresponding limb drawn up to the affected side—nausea and vomiting, frequent calls to make water, which at first may be bloody and high-coloured, then becomes

pale—bowels are confined—an anxious countenance—spirits depressed.

This disorder must be distinguished from lumbago and colic: but in lumbago the pain is on both sides, and does not shoot down to groin, neither are there nausea and vomiting, whilst in colic the urine is not disturbed.

Treatment.—Venesection, leeches, and fomentations to the back—no blisters.

Purgatives of castor oil are best; lavements of warm water are often of great service.

Barley water with gum arabic in it. Diluting liquids.

Inflammation of Liver.

Much more frequent in warm climates than in cold. The signs are those of fever, pain, and a feeling of tension on the right side over the liver region—this pain may be dull or sharp, and pricking, according to the part of the liver which is affected, and it shoots, in some cases, up to the right shoulder and parts adjacent; but sometimes to the left shoulder, when the left lobe of the liver is affected. The movements during the breathing increase this pain, and the patient cannot lie on the left side usually. With all these, nausea and vomiting may arise if the part of the liver near the stomach is inflamed. This pain in the shoulder has frequently been mistaken for rheumatism. Jaundice may attend; but not always.

Treatment.—The object is to reduce the inflammation before it terminates in the formation of matter, which matter may become dangerous to life. Bloodletting, and leeching, as in the foregoing diseases, only we need not bleed from the arm, after four or five days have elapsed.

Repeated blisters.

Purges of infusion and salts, as in No. 2.

Lavements are useful, and after the high inflammatory signs have decreased—the calomel and antimony powders (No. 26), low diet.

Chronic Hepatitis, or Liver Disease.

This may follow an acute attack, or it may arise independently. The symptoms are rather obscure; there *may be thirst*, and other signs of feverishness, or none may *be perceptible*. The digestion becomes disturbed some *three hours after a meal*—the bowels usually confined, and

the motions lumpy and clay or ash coloured. There may be more or less of jaundice—and a feeling of tension or weight in the right hepatic region may attract attention. Pains may exist, but they are not usual. If an abscess have formed or is forming in the liver, shiverings, or what are technically called rigors, give tokens.

This disease may prove fatal by inducing dropsy.

Treatment.—Leeching for local pain is sometimes required.

If the bowels are not in an irritable state, purgation is most efficacious.

No. 37. Of Blue pill . . . . . 3 grs.
Compound extract of colocynth 2 grs.

Make a pill to be taken every night for four or five nights, and next morning give the salts and senna mixture, so as to secure a tolerably free action of the bowels, as far as the patient can bear; mercury has been forbidden in this complaint, but so long as the stools are light and clay coloured, the mercury is likely to do good.

Bitter tonics, such as taraxacum, gentian, &c. with soda. The dandelion or taraxacum is useful when light coloured stools proclaim a torpor of the liver, and when the stomach functions are not impaired.

No. 38. Of Bruised dandelion . . . . 4 oz.
Distilled water . . . . . 1½ pint.

Boil down to a pint, and strain.

No. 39. Of this decoction . . . . . 2 oz.
Carbonate of soda . . . . ℥ss.
Compound tincture of gentian 1 dr.

three times a day.

Either of the other bitter infusions with soda may be given in like manner.

One of the most efficacious remedies, both internally or externally, is the nitro-muriatic acid.

No. 40. Of Muriatic acid . . . . . 1 dr.
Nitric acid diluted . . . . ½ dr.
Compound infusion of orange peel, or of gentian . . . 6 oz.

Mix. Dose—two table-spoonfuls thrice daily.

The nitro-muriatic acid lotion—

No. 41. *Of Muriatic acid* . . . . . 3 oz.
Nitric . . . . . 2 oz.
Water . . . . . 5 oz.

Mix. Two table-spoonfuls of this to a quart of water may be applied warm over the right side several times a day. If a bath of this sort can be obtained, it would probably be very useful. (For treatment of bilious headache, and the ordinary bilious disorders, see first section—article SECRETIONS.) Change of scene, and from a hot climate to a colder one, are necessary. Certain mineral waters may be resorted to.—*See* MINERAL WATERS.

INFLAMMATION OF THE BLADDER—CYSTITIS.

Acute and chronic—symptoms, feverishness; the local or peculiar signs are sharp pain in the region of the bladder, increased upon pressure at the lower part of the belly, frequent making of water with painful discharge of urine. There may be a bearing down, and also vomiting may attend.

Treatment.—Bloodletting or leeches, according to violence of symptoms of fever; warm fomentations, absolute rest, warm bath. Dover's powder, and potash or soda.

No. 42. Of Dover's powder . . . . 4 grs.
Bicarbonate of potash or of soda . . . . . 20 grs.
Syrup . . . . . 1 dr.
Water . . . . . 1 oz.

every fourth hour. The bowels are to be kept open by castor-oil, and by lavements of a soothing, emollient character.

The chronic form is shown by pain or uneasiness on making water, and by mucus appearing in the urine. In the latter periods of this chronic form, we may be obliged to give copaiba capsules with soda draughts, as in No. 42, keeping the bowels open by castor-oil.

In both forms the urine should be rendered as unirritating as possible by tumbler-fulls frequently of barley or gum-water, &c.

INFLAMMATION OF THE URETHRA, OR URETHRITIS.

The male urethra is a somewhat tortuous canal, with very delicate irritable lining membrane, and when seized with inflammatory actions, much pain, and even agony, results. There is a pain deep seated in the perinæum, and often sharp pain in passing the water, with spasm that temporarily arrests the flow. There may be a white

mucous cloud in the urine, with scantiness of it, and after a while pus or matter is ejected. More or less of fever may be present.

This disease may arise from exposure to a draught of cold air of the part (the perinæum) in a sweating state, while the constitution is not in a healthy condition.

Treatment.—Leeches according to severity of symptoms, must be applied to the perinæum, the bleeding encouraged by fomentations or poultices. Drink freely of diluents, barley water, &c.; get the bowels open and give these draughts.

No. 43.	Bicarbonate of potash	3 oz.
	Syrup	℥j.
	Water	1 oz.
	Tincture of henbane	20 to 30 drops.

About three times a day. Low diet.

If a purulent discharge continue when all other signs have disappeared, balsam of capivi capsules or cubebs may be tried. Much caution as to eatables and drinkables will be requisite, for, it may be, years afterwards, to prevent suffering, or a relapse.

Rheumatism.

Is inflammation of a peculiar or specific kind, and differs from common inflammation in never terminating in suppuration nor gangrene.

It may be acute or chronic. The acute forming an attack of what is called rheumatic fever.

Rheumatic Fever.

It attacks the tendons and ligaments. It seems, at times, confined to certain joints, it is then called synovial rheumatism. The other species is called fibrous rheumatism. The attending fever is of the inflammatory character; tongue covered with thick white buffy coat—skin moist, and sometimes drenched with sour perspirations, so sour as to attract strong attention—pulse, full, round, and bounding—urine, high-coloured with, after a time, a rose-coloured sediment. The chief sign is pain, which is very sharp, increased on every movement and affecting different parts, and shifting about, *leaving a* redness and swelling behind *it. The synovial kind affects* some joints, more frequently *the knees; the patient lies* on his back, utterly without

motion, for every bending of the joint gives pain, even amounting to agony. Thirst; joints swollen, smooth, and of pale red colour.

Causes.—In acute rheumatism, the blood contains some irritating or poisonous ingredient, which falls upon particular parts of fibrous structure; cold and damp; obstructed perspiration; getting cold on issuing from heated rooms, *&c.*

Treatment.—Rheumatism is not in itself dangerous to life; but the valves of the heart, or other parts of the heart, or the pericardium (that is the bag containing the heart) may become implicated, and then great danger to life immediately ensues. And even if life be saved, without the heart affection having been thoroughly subdued, the patient will have to live an invalid's life ever after.

When the heart is attacked during rheumatic fever there will be sudden pain over the region of the heart; considerable difficulty of breathing, and increased impulse of the heart's beat; while, in some cases, the countenance becomes very anxious.

If the fever signs run high, blood-letting; but few cases, however, will require this, though in almost all, some leeches will be useful. The bowels should be opened gently; and then a night-pill given.

No. 44. Of Blue pill . . . . . 4 gr.
Dover's powder, commonly called compound ipecacuanha powder . . . 6 gr.

to be made into 2 or 3 pills, and taken every night for 6 or 8 nights. Then the following draughts,—

No. 45. Of bicarbonate of potash . . ½ dr. or 30gr.
Wine of seeds of meadow saffron, called colchicum 20 drops.
Syrup . . . . . 1 dr.
Water . . . . . 1 oz.

every 4 hours, until the pain give way; or, until a feeling of nausea come on, which would become vomiting; or, until the bowels become very loose; or until drenching sweats (not the sour peculiar sweats of rheumatic fever) appear; then the colchicum must be immediately discontinued.

The writer has seen the greatest advantages derived *from these* draughts, nor has he ever seen any harm accrue *from the use of* the colchicum, so long as the above stated *precautions* are observed. The potash in these draughts

seems to help to arrest the sour sweats, and during 20 years' use of them he has never met with one instance of translation of disease to the heart during rheumatic fever.

If pain distress very much, 15 or 20 drops of tincture of opium should be added to each draught.

The affection of the heart which supervenes, or is coincident, requires most vigorous treatment, as to bloodletting; and the system ought to be put under the influence of mercury as soon as possible, by the calomel and antimony powders, No. 26; but these are cases requiring professional attendance, if it can be procured.

The affected joints may be kept cool with Goulard water or with Eau de Cologne lotion; and if pain remain after the heat and redness have subsided, gently rub, night and morning, this liniment over the affected parts; and it often gives great relief:—

No. 46. Of Soap liniment . . . . . 8 oz.
Extract of belladonna . . . 1 dr.
Cyanuret of potash . . . . 20 gr.

As the state of excitement passes away, give the bitter infusions, with nourishment, &c. *(See* FEVER.)

CHRONIC RHEUMATISM.

The forms of this are rheumatic headache; pain in the side; lumbago or pain in small of the back; and sciatica. These pains are often sharp, and will come on in fits or paroxysms every day or alternate day, not unlike to ague in this respect of their periodical visitation; there are no marked constitutional symptoms. The headache pain may be situated in any part of the head, but it is more frequently met with on the top of the head; the pain is relieved somewhat by pressure.

In all these forms the draught, No. 45, may be given, and the liniment, No. 46, rubbed in; but between the attacks of pain, sulphate of quinine should be given, 1 or 2 grains in form of a pill, 2 or 3 times a-day, during the intervals of freedom from pain. If fulness of the head or giddiness ensue, or a buzzing in the ear, the quinine must be discontinued. For the rheumatic headaches the hydriodate of potash has been found useful, about 3 to 5 grains in some tonic infusion. *(See* FEVER.) But any dryness of *the mouth or pain in the stomach*, will tell us when this *remedy is disagreeing*, and when its use must be stopped.

In rheumatic stitch in the side, *points de coté* of the French, poultices, on which some powdered opium has been sprinkled, have often given relief; or the plaster of belladonna may be applied; or the liniment, No. 46, rubbed in.

Wet and cold must be avoided; flannel warm; and to wear as much silk covering as possible is advisable, to guard against the electrical changes in the atmosphere.

Several mineral waters are famed for alleviating rheumatic attacks.

Gout.

An attack of gout is generally preceded by signs of stomach ailment—of indigestion—then, generally about one or two in the morning, a violent pain seizes on the great toe, or some other joint. This violent pain continues a certain time—till next night,—when, after sweating and sleep, the joint swells, becomes of a deep red colour, the skin is distended, and there is swelling more or less in the parts circumjacent.

This round of symptoms will go on for some days; when the swelling and redness subside; the skin peels off, and the part is as it was before the attack, or after many attacks, chalkstones form in it.

When there is not sufficient energy in the system to allow of a regular fit of the gout, the disease may attack the head, when a state resembling apoplexy ensues, or else headache and other head-symptoms arise. When the stomach suffers, there are pains in the gastric region, nausea, vomiting; when the heart, there will be palpitations, and tendency to fainting.

Causes—are hereditary predisposition; fulness of body; middle age; a sedentary life and luxurious habits; acid wines; and errors in diet.

Treatment.—When time is of consequence, and speedy recovery sought, sharp and continued purgation is requisite; and the morbific element is thus got rid of. The best plan is to give an aperient pill and draught next morning; then the draughts recommended in rheumatism, to which twenty grains of acetate of potash may be added.

To quiet the pains, some 20 drops of tincture of opium, *at night; or 10* grains of Dover's powder.

To the part, poultices, with powdered opium sprinkled *on them; but cold* applications may be dangerous.

When the stomach suffers give stimulants, warm brandy and water, ether, ammonia and camphor, with the bicarbonate of potash. For prevention of attacks, diet during convalescence and the intervals—*See* DIET.

DYSENTERY, OR INFLAMMATION OF THE COLON.

Fever, with, at first, costiveness and flatulence—griping pains—then discharge of offensive, variously coloured motions, with severe bearing down pain—masses of hardened, feculent matter are passed, of a globular form; these stools form the marking character—the pulse is quick and weak—and a sense of local heat, with hiccup and great prostration, follows.

Causes.—A peculiar contagion; fatigue; bad diet; intemperance; exposure to miasms.

Treatment.—If the fever is not attended with great debility and prostration, apply leeches and warm fomentations, or, better still, warm baths. Then the salts and senna draught.

Then Dover's powder 10 grains, with 2 grains of the grey powder (mercury and chalk), three or four times a day, and encourage perspiration by warm drinks.

To relieve the bearing down, a lavement of 2 ounces of starch decoction, with 30 drops of tincture of opium; or, if the lower bowel is very sore, and will not bear the introduction of the clyster-pipe, then a grain of opium, mixed with a small bit of soap, may be introduced into the bowel. If the fever is of typhus character, ammonia in camphor-mixture, and stimulants.

To prevent relapses, flannel round the belly must be worn, and care taken to avoid the causes.

ERUPTIVE FEVERS.—ERYSIPELAS.

This is an inflammation of the skin, both contagious and infectious. The attack may occur in from two to fourteen days after exposure to the cause; it does not, like small-pox, secure from a second attack; and it may co-exist with fever, and with other diseases. It may be mild or severe, or it may terminate in forming matter, or in gangrene. The fever has been divided into three stages —the first, inflammatory (*see* INFLAMMATORY FEVER); in about five or six *days, the* second commences, with brown *fur on the tongue, when typhus* symptoms appear—matter

may form when the head is affected, and this kind of erysipelas is very dangerous; it may accompany wounds and external injuries.

Treatment must be modified according to the strength, and to the inflammatory symptoms. Aperients and salines as in fever; but tonics, that is quinine, may be given early —indeed, some begin with the bark. Looseness of bowels, and all exhausting discharges must be stopped; for looseness (*see* DIARRHŒA); for sweats, the mixture No. 48, with wine. The quinine should be given in large doses—three, or four, or six grains every four hours; but, as soon as buzzing in the ears occurs, discontinue the quinine, continuing the wine.

For local applications, warm fomentations, flannels wrung out of hot water, constantly renewed, so long as such applications are grateful and soothing to the patient. When no longer so, try cold—cold-water cloths, renewed as they become hot; some recommend flour to be dredged over the parts, and it often proves very pleasant to the sufferer.

A minor degree of erysipelas sometimes is seen without fever, only more redness, with itching of the skin, which is not swollen. This is called erythema, and it is often of importance not to meddle with it incautiously, as it is a sort of safety-valve in elderly persons and in certain habits of body.

The writer recollects one case in point, where the gentleman, between sixty and seventy years of age, complained of an inflammation of the legs of this kind, and especially of the itching, which prevented sleep for hours. He wished to have the inflammation removed as soon as possible. The writer refused, unless he would undergo preliminary constitutional treatment by aperients, and a more rigid diet than the patient liked to submit to. The itching was removed, but local astringents were refused. The habit of body was plethoric. After the writer left the place, this poor but obstinate gentleman, notwithstanding he had been told of probable consequences, put himself under a French druggist, who soon removed the redness. In a short time afterwards, he was seized with apoplexy, which proved fatal, almost before the medical *man, who* had been summoned from a distance, could arrive.

Thus, similar inflammations may appear slight, but they *may be so connected* with the constitution as to be clear-

ing it of some internal irritation, and preventing an attack dangerous to life.

To such cases constitutional treatment is alone safe, and only the mildest local applications should be resorted to; putting the secretions in order by aperients, and regulating the diet, insisting upon air and exercise, and the avoidance of sedentary habits.

Small Pox.

May be distinct, where the pocks are distinct from each other; or confluent, where they run together.

To pains in back and loins, the usual fever symptoms succeed; and in three days, small red points appear on the face and head—the tongue is usually heavily loaded with a thick yellow or brownish coat—and much headache is present. By the fifth day (the second after the eruption) a little vesicle, with some colourless fluid in it, appears on each point, and an inflamed margin extends around. On the sixth day, the fever lessens, and a viscid saliva in the mouth is troublesome; and, on inspection, the throat is swelled, with, perhaps, spots of eruption—swallowing is painful, the face and head swell, sometimes to a great size. About the eleventh day, the spots are of full size—about that of a pea, usually; the swelling of face subsides, and the hands and feet swell—a crust forms on each pustule—feverish symptoms again appear, forming the secondary fever. The crusts dry, and fall off, leaving spots of brownish colour—these last either disappear in time, or indentations are left on the skin. On the first and second day the eruption is like solid red spots—papular, as it is called—on the third, fourth, and fifth, there is some light-coloured fluid in each pock; the sixth and seventh, the fluid changes—on eighth day it is yellow (pus)—ninth, tenth, eleventh, twelfth, and thirteenth, each pock goes through various stages, until they burst, and scabs are formed.

The confluent sort is very dangerous; the fever being typhus, with prostration of the powers, coma, and delirium. The spots run together, are not circular, and the skin between them is of a dusky red. The first fever never remits, and symptoms of putrescency soon appear. Inflammation of the eyes is an occasional accompaniment, and diarrhœa, *or bleeding* at the nose, is not unusual in *either of the forms.*

Causes.—Special contagion, or inoculation. The attack of this disease takes place in from ten to sixteen days after exposure to the cause.

Treatment.—When the fever is violent, we must try to moderate it; the strength must be supported, and violent symptoms or inflammation combated. The aperient pills and Epsom salts mixture should first be given; and saline draught, with low diet, and a free ventilation of the apartment, are necessary afterwards; but, as soon as the strength fails, or the pocks become flattened, some ammonia mixture, with nourishment—beef-tea, mutton-broth, &c., and wine, or brandy-and-water.

No. 47. Of Carbonate of ammonia . . 40 gr.
Camphor mixture . . . . $6\frac{1}{2}$ oz.
Syrup . . . . . $\frac{1}{2}$ oz.
Liquor of acetate of ammonia ℥j.
An eighth part every four hours.

If the bowels are purged (*see* DIARRHŒA). If sweats exhaust,—

No. 48. Of Dilute sulphuric acid . . 1 drachm.
Syrup . . . . . $\frac{1}{2}$ oz.
Infusion of Calumba . . $\frac{1}{2}$ oz.
A sixth part every four hours.

Light and air give vigour to arterial action; hence, in parts exposed to the air, the pock-marks are deepest, as in the face, neck, &c.; and most deformity ensues where it is most annoying. To prevent these marks, the writer has derived great benefit from sprinkling over the face, or over each pock in the face and neck, some prepared calamine, (impure oxide or carbonate of zinc,) in fine powder; he thinks the usually-dreaded secondary fever has thus been rendered milder and less fatal. This should be done on the fifth day; and several persons have been thus saved from deep and disfiguring marks.

In convalescence, the gentle tonic infusions and nourishing diet.

COW-POX. *See* DISEASES OF CHILDREN.

COW-POX, or INOCULATION, will be mentioned in the section devoted to DISEASES of CHILDREN.

SCARLATINA, OR SCARLET FEVER.

The danger from this disease varies, and sometimes it

is so mild that little or nothing need be done as to remedies; nature alone will be all-sufficient. But there are cases than which none are more deadly; not even the plague itself.

After the usual symptoms, denoting the approach of fever, viz.—chills of surface—nausea—pains in head and back—thirst—heat, restlessness—and frequent pulse—set in—the first stage, that is from the commencement of the eruption, varies in duration from twenty-four to seventy-two hours—the second stage, or that extending from appearance of eruption to its subsidence, from six to eight days—and the third, or that from appearance of the eruption till its disappearance, from a few hours to two or three weeks. So the whole course may extend from eight to thirty days.

The poison of this disease acts either on the skin, or the mucous membrane of the mouth and throat; and it may be limited to one or the other, or it may attack both. The poison of measles acts on the mucous membrane, lining the air tubes below Adam's apple, or the projection in the throat; while that of scarlatina affects the mouth and upper gullet above that point. Measles are of inflammatory character, scarlatina of typhoid. This disease is divided into a mild form, a severe form, and a putrid form.

When the fever symptoms have lasted about two days, a great many red points, separated by portions of skin of the natural colour, first appear over the face and neck; whence it extends over the body. The interstices between the points become red from their coalescing.

In a couple of days, the eruption separates into patches —the skin is perceptibly rough to the touch, and scurf forms on the skin. Sometimes, the scurf-skin has peeled off from the hands, preserving the shape of the fingers like a glove; and one author, Dr. Frank, alludes to having seen the warts on the fingers thrown off in the scurf. The rash begins to decline on the fifth day, and wholly disappears by the eighth. On looking into the mouth and throat, we shall see a bright red colour extending over the whole of the surface which is visible. The tongue is remarkable, for through its white fur may be seen some protruding red points (the papillæ, which are unusually long); but, in *some cases,* the tongue is red all over its *extent.*

Some simple and very mild cases may consist of mere redness of the skin, without any affection of the throat; but, usually, the tonsils and glands under the tongue and lower jaw are swollen, and the act of swallowing causes pain, extending to the ear. The inflammation has sometimes crept up the passage to the ear from the upper and back part of the mouth, causing deafness.

In the malignant form, the mouth and tonsils are less swollen than in the preceding kinds—but the colour is deeper, the redness being of a more intense red or livid colour. In the former degree, little specks of white lymph may have been deposited on the throat and tonsils; which specks or spots, if washed or wiped away, will leave the red skin underneath, in the milder species—but in the severe and malignant form, there is ulceration beneath them—that is, ulcers, more or less deep, are formed in twenty-four or thirty hours, by the sloughing away of the mucous membrane. Fluids are rejected through the nostrils. The tongue, from the first, is covered with a brownish fur, more or less dark-coloured. The initiatory symptoms are those of typhus fever—vomiting and diarrhœa are frequent—headache—pain in the back—oppression at the pit of the stomach—eyes heavy and muddy—pulse small and fluttering—great nervous depression—the breath is fœtid—and ash-coloured spots are visible over the interior of the mouth and throat. Ulceration and gangrene follow—the voice becomes hoarse, and the breathing is attended with a noise as of one strangling. Fierce delirium, with hiccup, bloody stools, &c., close the scene of the awful malady.

Danger may arise from the poison of scarlatina causing dropsy; which dropsy supervenes rather on the milder than on the severer forms of this disease. It begins with œdema, or swelling of the face, which affects other parts of the body. The urine is scanty at first, but soon becomes copious; the pulse is quick, and no more serious form of dropsy may show itself; but the serum may be effused into the head, when headache, convulsions, &c., give evidence of the danger. It may be effused into the chest, when difficulty of breathing will become manifest; or the poison may attack the kidneys, giving rise to renal or kidney-dropsy. Wherever the poison has been freely *eliminated by the* skin, dropsy is seldom if ever seen; *therefore, it does* not follow cases of great severity, or

those accompanied with much eruption. Dropsy appears between the sixteenth and twenty-fifth day; and if no dropsy appeared by the end of the fourth week, Dr. Wells considered all danger of its occurring had passed over. It usually appears about the twenty-first day from the commencement of the fever. Dropsy may attack the cellular membrane of the body and limbs, without affecting any of the interior organs. One attack secures the sufferer from a second one.

Causes.—Specific contagion. The latent period is from two to ten days after exposure to the cause.

Treatment.—In the mild form, a temperature of about 60° of Fahrenheit's scale should be kept up. Pure air, no animal food, gentle aperients, diluting drinks. The attack soon passes off.

But in proportion as the fever assumes the typhus form, and the throat symptoms put on the character above described, we must support the strength, and enable the patient to survive the prostration caused by the scarlatinal poison; wherefore, the quinine mixture with acid, No. 17, must be given assiduously; and wine, also, at regular intervals, with sago. But since children can hardly be made to take the bitter quinine, we must rely chiefly on wine.

An observant person can easily see whether these remedies are doing good by their effects, or whether they are given in too large quantities. The treatment recommended in typhus will be proper here.

Sometimes the eruption fades suddenly; and distressing oppression and inward symptoms follow, with death, if not relieved by a return of the eruption. Dr. A. T. Thomson recovered some cases of this kind, by immersing the patients in a bath, with flour of mustard thrown into it. The skin in one case became red as a lobster; but all inward suffering and danger to life ceased forthwith.

Some medical men strongly recommend the carbonate of ammonia, 5 grs. in decoction of bark, 1 or 1½ oz., every three or four hours. Others give chlorine in the form of chlorate of potash.

No. 49. Of Chlorate of potash . . 3 to 5 grs.
Muriatic or hydrochloric
acid . . . . . 10 to 12 drops.
Infusion of bark . . 1 oz.

Or else, if the bark is too disagreeable,

Of Syrup, or syrup of orange-peel . . . 1 or 1½ dr.
Water or barley-water 1 or 2 oz.

instead of the infusion of bark, every three or four hours.

As to local applications to the throat, the writer has painted, by means of a camel-hair brush, over the whole surface of throat, and tonsils, every night and morning, with this solution of iodine.

No. 50. Spirits of wine . . . . . 2 oz.
Purified iodine . . . . . 40 grs.

This should be continued to be applied, even when gangrene and deep ulcerations exist; but if the unprofessional reader cannot do this—though it is not difficult to do—the following gargle should be often used, or if the gargle cannot be used, the parts should be washed with it, for it is of importance to keep the surface of the throat as clean and as clear from putrescent matter as possible. Such matter reacts upon and depresses the constitution.

No. 51. Scarlatina or anti-putrescent gargle.

Of Hydrochloric acid . . . . . 1 dr.
Honey or honey of roses . . . . 1 oz.
Tincture of myrrh . . . . . ½ oz.
Barley-water . . . . . 7 oz.

Mix for a gargle. But as depression and exhaustion prevail, press the wine or brandy-and-water, with animal jelly or beef-tea between the hours of taking the stimulus. The patient must be supported against the sedative effect of the poison, and it may encourage the timid and despairing if the author mention one of his cases in a lad of fifteen, where the throat was in such a state that milk and wine had to be poured into the gullet by the quill of a pen. Life was thus supported for ten days, and recovery ensued.

As to preventing an attack of scarlatina, in those who are exposed to danger, and have never previously suffered, he has never seen any evidence of good from administering with this view the belladonna, as recommended by Dr. Hahnemann; but if any one should wish to try it—and it may do some good by giving confidence—Dr. Hahnemann's preventive is this—

No. 52. Of Extract of belladonna . . 3 grs.
Distilled water . . . . . 1 oz.

Of this give three drops twice a day to a child under twelve months, and add one drop more for every year of the age beyond that of the first year. He says, if taken five days before the infection, if it do not prevent, it will render the attack milder.

Now, if we are asked, When does the danger cease of giving or catching this disease? we must say we do not know; but so long as the scarfskin is being cast off in the shape of scales, &c., there is danger of infection.

Of course, all offensive excretions must be removed constantly from the bed room, and cloths, wetted with chloride of soda or lime solution, should be hanging about the room.

The clothes of the patient, of the bed, and even the walls themselves, retain and obstinately hold the power of infection for months after the case has terminated, and white or limewashing, fumigations, or even shutting up the room, and burning sulphur, have not eradicated all danger. Still these precautions must be taken. As to clothes, the author has found exposing them to a great degree of heat has seemed to prevent infection. They should be put into an oven, and exposed to a heat of 220° Fahrenheit for some hours; there is some reason to think that the heat decomposes the lurking poison—volatilizes it, it may be said. This precaution, then, should never be neglected. Dr. Henry, of Manchester, recommended this in 1832, and it has been found effectual in Egypt. Bales of goods have been thus disinfected. The air in the interstices of such bales retains the poison usually.

For the treatment of the dropsy, *see* DROPSY.

PLAGUE, OR PESTIS.

This is a malignant or putrid typhus fever, with certain glandular swellings in the arm or groins called buboes, carbuncles, or pustules, of a white, livid, or black colour.

The stages vary; there are no premonitory signs, and so intensely deadly is the poison in some cases, that life is very soon extinguished.

The symptoms of a severe attack are those of the worst kind of typhus, but the fever is more intense in plague. The gait staggering and the eruption of buboes, &c., mark the nature of the disease.

The symptoms need not be detailed to those who have *read the signs of typhus,* only the anxiety and nervous

dread are greater, while utter prostration attends throughout, almost from the beginning.

An occasional darting pain in the region of the gland precedes the formation of a plague bubo, when, some hours after, a deeply-seated hard round tumour, moveable and painful on pressure, shows itself; the skin does not inflame until the bubo has continued eight or nine days, when it becomes discoloured. On the fourteenth or twenty-second day, if life be spared so long, matter forms, which is at length discharged.

The carbuncle appears first as a vesicular eruption, roundish and jutting forward. The superjacent skin is uneven, wrinkled, greyish, and under it there is a dusky yellow or even blackish fluid; when this has been discharged, there is a dark gangrenous surface underneath. If common matter form after a time, the part heals slowly, if not, gangrene spreads.

Livid or pale purplish spots, like fleabites, appear, and large streaks or blotches, like dark bruises, occur in some cases.

Those cases in which buboes arise early are favourable; and also when the swelling is firm and unyielding to the touch, not generally adherent, and is easily moveable at its base.

The slighter the fever the better; the absence of vomiting is favourable, and the patient living on to the eighth day.

Causes.—Epidemic influence; contagion. The plague may lie latent or concealed for thirty days, it is said; but the latest report of the Paris Académie de Médecine gives eight days as the maximum of incubation; so that if a person sustain no attack after being exposed to danger for eight days, he may be considered to have escaped. Goods, woollens, cotton, &c., will convey the poison from place to place.

Treatment.—Usually there is little to be done in the way of treatment; for everything taken into the stomach is instantly rejected.

Still small pieces of ice may be swallowed, and calomel with camphor may be tried, as in No. 19, only in smaller quantities.

Cold applications to the head are useful. A poultice with powdered opium sprinkled over it to the pit of the *stomach, or opiate* liniment.

No. 53. Of Soap liniment . . . . . 6 oz.
Tincture of opium . . . . . 2 oz.

Mix. Rub gently into the pit of the stomach night and morning, about a table-spoonful of this liniment.

The buboes, or carbuncles, should be encouraged to suppurate, that is, to form matter, by poultices frequently renewed; and if gangrene, or much fœtid smell, is perceptible, the charcoal or chlorine poultice.

Brandy-and-water, or wine and brandy, should be got down, by tea-spoonfuls even, so as not to excite vomiting.

Acid drinks at pleasure. As soon as nourishment can be borne, give jelly, beef-tea, &c.

To disinfect goods, follow Dr. Henry's recommendation of putting them into a heat of 220° Fahrenheit. He thinks the air charged with the plague poison remains stagnant in the interstices of the goods, and that heat can alone disinfect them.

MEASLES, OR RUBEOLA. *See* DISEASES OF CHILDREN.

VESICULAR ERUPTION, OR PEMPHIGUS.

This disorder is characterized by eruptions dispersed over different parts of the body, which eruptions assume the form of vesicles, about the size of a split pea, increasing to that of a large nut, and contain a yellow fluid. The fluid soon becomes pinkish in colour, and turbid; then the vesicle, or bladder, bursts, or else it dries up into a dark-coloured crust. If it burst, the skin underneath it is in a sort of irritable or excoriated state. Successive crops appear and disappear in three or four days, causing much exhausting irritation in children.

These vesicles sometimes attack the interior of the body, causing symptoms of irritation corresponding to the part affected. There is an acute form, attended with fever, and a chronic form. It seldom attacks adults, but it may prove dangerous to weak children, and when the bowels are affected. It may be contagious.

Treatment.—Observe the kind of fever which co-exists, and act accordingly. Tonics are usually required early. If the bowels suffer, *see* APHTHA, or THRUSH IN CHILDREN. Puncture the vesicles. Apply spermaceti ointment to the ulcers.

NETTLE RASH—URTICARIA.

Slight fever, with an eruption, as if the person had been

irritated by nettles, with great itching. It may continue an indefinite time, and may appear or disappear at intervals; usually recedes in the day-time, reappearing in the evening.

Causes.—Suppressed perspiration, irritating diet.

Treatment.—By a cool regimen, mild aperients, tonics

Shingles, or Zona.

The eruption occurs about the waist, extending half round the body—small distinct vesicles—skin of purplish red hue—great itching and heat, with fever. Rarely met with except in the young. It has been known to terminate fatally. The vesicles dry and scale off. After some weeks, the eruption and symptoms give way and vanish.

Treatment.—Keep the patient moderately warm; give tepid diluents, gentle aperients.

No. 54. Of James's powder . . . . . 3 grs.
Dover's powder . . . . . 5 grs.

Every night, and again once or twice in the day. If the itching is very troublesome, sprinkle starch powder over the breaking or broken vesicles. Tonics.

If much pain, thirty grains of watery extract of opium to one ounce simple cerate will relieve. If we apply a strip of blistering plaster near to where the vesicles are likely to appear, the extension of the disease will be checked, the vesicles will shrivel, and the progress of the disease be cut short. The blister must not be applied over the vesicles, but near to them only, or gangrene might follow.

Miliary Fever. *See* Diseases of Women.

Hæmorrhages, or Blood from Various Parts.

Bleeding at the Nose—Epistapis.

After a sense of weight in the head—flushed face—giddiness—buzzing in the ears—blood is discharged from the nostrils in varying quantities.

Treatment.—As this hæmorrhage may be giving relief *to an overloaded* state of the blood-vessels in the head, we *should ascertain if* symptoms of fulness of head have *existed; but in all* cases purgatives are useful.

Powdered charcoal may be snuffed up the nostrils, or

plugs of lint rolled in this powder may be put up; or plugs wetted with this lotion:—

No. 55. Of Sulphate of zinc . . . . . 1 drachm.
Sugar of lead . . . . . 10 grs.
Distilled water . . . . 10 oz.

Or alum water, used in like manner—two drachms to half a pint of water.

When faintness impends, we should try to arrest the bleeding directly. Absolute rest and quietness, with head erect. Cold cloths or ice to nape of neck, or behind the scrotum. A cold key to nape of neck will sometimes arrest. Plugs once introduced must not be hastily taken away. Diet according to the state of the strength.

SPITTING OR COUGHING-UP OF BLOOD. *See* CONSUMPTION.

VOMITING OF BLOOD—HÆMATEMESIS.

This is usually preceded by a sense of weight, oppression, and anxiety, at the pit of the stomach. There is usually no cough. The blood is discharged in some quantity; it is of a dark colour, and is often mixed with sundry contents of the stomach. Blood also passes from the bowels, and the stools are blackish or dark coloured, the blood having been acted upon by the acid it meets with in its passage through the bowels. Clots, or coagula, are observed in the fluid ejected, and it thus differs from the black vomit of certain fevers in hot climates. Discharges of blood may occur in severe scarlet fever, or sore throat, and other disorders, attended by great prostration of strength.

Causes.—Suppression of discharge from piles, or other suppressed discharges; certain poisons or irritating matters in the stomach; ulcers in it; organic disease of stomach, when the blood is of brown colour, and mixed, as above described, with other matter. Danger does not so much arise from the quantity of blood ejected at once, as from repeated attacks.

Treatment.—If there is too great a fulness of the system, some blood may be taken from the arm, and low diet. *Iced water or ice; keep the bowels open by gentle aperients; ice to the pit of the stomach.*

No. 56. Of Dilute sulphuric acid . . 15 drops.
Water . . . . . 1 oz.
Tincture of opium . . . 10 drops.
Syrup . . . . . 1 drachm.

Every four hours. Or the acetate of lead and opium. *See* SPITTING OF BLOOD. Some strongly recommend oil of turpentine, ten to thirty drops, mixed in an ounce of water, with one drachm of mucilage of gum arabic. If organic disease is acting as a cause, we must act accordingly.

IMMODERATE FLOW OF THE MENSES. *See* DISEASES OF WOMEN.

PILES—HÆMORRHOIS.

Piles may protrude externally, or they may exist within the bowel. There is a sense of weight in the back and loins—flatulency—giddiness of head—sickness—on going to stool, a sharp pain is felt at the time, and continues, if the piles do not burst—when they do, relief is experienced.

When they bleed, they are called bleeding piles; when they do not, they are called blind piles.

The bladder is sometimes affected, and there is a desire to pass water frequently.

They may induce inflammation in the part, or matter may form; and when much blood is passed, or there is a frequent discharge of blood, much debility results.

Causes.—Costiveness; hard motions; hard riding; pregnancy; a pressure of tumours; suppression of any habitual discharge; a full state of the veins in the belly or liver; intemperance; or piles may act as a safety-valve to prevent apoplexy, from too full vessels in the head.

Treatment.—If the piles are salutary in reducing the fulness so often observed in stout elderly people who are fond of eating and drinking, we must be cautious how we arrest the bleeding. We must first reduce the fulness of habit by mild purges, reduced diet, &c.; but if the bleeding is causing debility, we must arrest the flow as soon as we can.

One principal rule is to get the bowels into such a state as that the motions should be always soft; active aperients are to be avoided, for they will cause a bearing down.

Sulphur is one of the best aperients in cases of piles.

No. 57. Of Washed sulphur . . . . . 1 oz.
Lenitive electuary, that is,
confection of senna . . 2 oz.
Powdered jalap . . . . . ½ oz.
Syrup enough to form an electuary.

Take of this a bit of the bulk of a walnut, whenever the motions are becoming hard.

When the liver is suspected not to be acting properly, give 25 drops of tincture of colchicum seeds with 20 drops of liquor of potash, in some barley-water, night and morning, till the motions become soft.

Locally, astringents may be applied.

No 58. *Ointment for Piles.*

Of Sugar of lead . . . . . 1 dr.
Powdered opium . . . . . ½ dr.
Spermaceti ointment . . . 1 oz.

Mix. Apply some of this night and morning.

If the outward piles are hot and irritable, a cooling or evaporating lotion; or a few leeches near to, but not on, the part. Pressure within the bowels by some India-rubber articles made for the purpose. Linen or lint wetted with sulphate of zinc, 1 drachm in water 8 ounces, may be applied. Some recommend the balsam of copaiba for the painful piles, 30 to 40 drops, night and morning. Others give cubebs, 20 grains, twice a-day. Ward's paste is often useful.

No. 59. *Ward's Paste.*

Of Elecampane root, powdered
Black pepper
Fennel seed, powdered
Clarified honey
White sugar, of each 1lb.

Mix the three first, melt the two last into a syrup, and mix all together.

The bulk of a nutmeg to be taken twice or thrice daily.

A rectum bougie, or a common candle may be introduced.

Diet, very unirritating.

BLOOD FROM THE KIDNEYS AND BLADDER.—HÆMATURIA.

An evacuation of urine mixed with blood, preceded by a sense of weight or pain in the loins. There is a deposit of coagulated blood at the bottom of the vessel.

We must take care that the blood comes from the bladder and not from piles.

When blood comes from the kidney it is generally *equally diffused through* the urine, and small cylindrical *portions of fibrine, resembling* worms, come away. Blood

from the bladder comes away after the urine has been discharged, the urine having flowed off nearly pure—and the sense of heat and pain are at the bottom of the belly.

The blood may come, not from the bladder, but from the urethra, (the passage from the bladder;) it then comes by drops or in a stream, unmixed with urine, nor is it accompanied nor preceded with a desire to make water.

If we want to make sure that the deposit is blood, boil the urine, and it will furnish a brown coagulum; the fluid part regains its natural urine colour. The blood may meet with acid in the urine, when it becomes blackish. In indigestion, the urine often deposits a sediment; but this, by heating, is redissolved, which blood would not be.

The urine, in jaundice, looks as if blood were in it; but cloths dipped in it are dyed yellow. The system may sympathize more or less.

Causes.—Hard riding; a stone in the parts; malignant disease in the bladder is attended with a deposit in the urine, resembling blood; but it is not blood, and is of a peculiar colour.

Certain substances, when eaten, will redden urine,—the prickly pear, or Indian fig; beet root; madder.

Treatment.—Gentle aperients. The most direct astringent is probably the gallic acid.

No. 60. Of Gallic acid . . . . . 5 gr. to 8 gr.
Mucilage of gum arabic . 1 dr.
Tincture of henbane. . . 20 drops.
Water . . . . . 1 oz.

Every three or four hours. This is a powerful remedy.

Or the acetate of lead and opium. *See* SPITTING OF BLOOD.

Or this:—

No. 61. Of bruised whortleberry leaves . ½ oz.
Boiling water . . . . . 1 pint.

Let it stand for two or three hours; when cold, strain.

No. 62. Of this infusion . . . . . 1 oz.
Tincture of kino . . . . ½ oz.
Syrup . . . . . ½ oz.

To be taken in the day.

Or this:—

No. 63. Of Tincture of muriated iron . 10 drops.
Spirits of nutmeg . . . . 1 dr.
Water . . . . . 1 oz.

Three times a-day.

A cold hip-bath; or ice up the lower bowel. Drinks of barley-water, gum-water, &c. If any gravel is passed at the same time,—give alkalies, for which *see* GRAVEL.

APOPLEXY.

There are forms of head disease which sometimes exist independently, or as symptoms of apoplexy. They are,—

Lethargy.—Which is a disposition to sleep, from which the person can be roused, will answer questions, and seems at other times as much awake as usual.

Coma is a greater degree of sleepiness than we observe in lethargy. The person can be roused for a moment, but he speedily relapses into his state of sleepiness.

Carus is deeper drowsiness than coma, and the person cannot be roused at all.

Apoplexy has been divided into the Sanguineous and Serous; the former occurring with signs of fulness of the vessels, the latter in old people.

The *Sanguineous* kind attacks suddenly—the powers of sense and motion are abolished—the countenance is flushed — the temples throbbing — the pupil of the eyes dilated, sometimes contracted (in the most fatal cases)—foaming at the mouth, and a motion as if the mouth were smoking a pipe—the respiration is snoring, what is called stertorous—grinding of the teeth, in some cases—the stools are passed involuntarily.

This kind of apoplexy may be preceded by various head symptoms,—as giddiness, dimness of sight, drowsiness, loss of memory, or stuttering, or hesitation and loss of speech.

After the apoplexy has continued some time, the pulse becomes languid and the breathing more and more impeded, until it is stopped altogether.

The attack of what is called by some *Serous Apoplexy*, is usually more gradual. A pale and humid face; a small, weak pulse, which may be regular or intermitting; giddiness; heaviness; impeded speech; or loss of memory may precede.

After a time the patient lies prostrate and unconscious, with pallid face, and coldness of skin and feet.

Both the sanguineous and serous kind depend upon one similar state, and they only differ in the symptoms just described.

After the patient has continued in this state some time,

paralytic symptoms supervene; and if recovery or amendment do not ensue by the third day, a fatal result may be apprehended.

Causes.—A certain age predisposes; and all who have passed their forty-fifth or fiftieth year should cautiously avoid the causes. A state of fulness of vessels, that is, of the arteries in the head, or of veins in the belly; a short neck and large head—a luxurious life—over-eating and drinking, with sedentary habits; great study; suppression of any habitual discharge, or of any cutaneous eruption; certain cases of heart diseased—all these predispose. The exciting causes are:—Violent mental emotions; sudden cold; violent exercise in those predisposed; certain postures in which there is straining in the head vessels—tight of ligatures round the neck; all excesses—derangement stomach—certain poisons—and fumes of certain substances.

Treatment.—In the plethoric, or sanguineous kind, we must bleed largely, and perhaps repeatedly,—for the vessels must be unloaded—so long as the pulse keeps up with considerable power we may bleed.

Leeches or cupping-glasses should be applied.

Sharp purges,—as croton-oil, 1 or 2 drops put on the tongue; or this,—

No. 64. Of Epsom salts . . . . . 1 oz.
Powdered jalap . . . . . ½ oz.
Infusion of senna . . . . . 4 oz.

Half to be given directly, and the other in 4 hours, if the former have not operated; but as the power of deglutition is frequently lost in these cases, we must rely on the croton oil put on the tongue as above directed.

When the bowels have been freely opened, and as much blood taken away from the arm as the patient will bear, we should give calomel and antimony powders.—*See* No. 26, in PHRENITIS.—If there be much vomiting, the antimony must be omitted and the calomel alone given.

See that the bladder is emptied every day.

When the apoplectic signs still continue, leeching and cupping may be repeated—so long as the skin retains its heat, and the pulse some strength—but when after some time *has* elapsed, little or no amendment ensues—even although *the calomel have* caused a swelling and tenderness of the *gums, little hope* remains of recovery from active treatment. *The calomel* should not be omitted, because if any

remedy will repair the damages caused by the apoplexy, or remove a congestive state, the mercury is most likely to do so; and if the calomel powders cannot be given, the writer would order one drachm of liniment of mercury to be rubbed every night and morning into the interior surface of the thighs, or the back of the neck, until the gums are tender.—In most cases the calomel powders can be administered by putting on the tongue three grains of it, with or without the antimony as it may be—and without any gum arabic powder—in order to lessen the bulk—and they will slowly pass down into the stomach.

Emetics have been recommended—when the attack takes place soon after a full meal—but the writer never gives them in this kind of apoplexy—the plethoric or sanguineous. He removes the contents of the stomach by the croton oil, or some other active purgative.—The emetic has seemed in more than one case to have increased the oppression of the brain in a marked manner.

Purgative lavements may be administered.

For local applications: cold to the head, pounded ice, &c. —The diet should consist of light drinks, and no nourishment at all.

As to the serous variety of apoplexy the treatment does not require to be so energetic as in the sanguineous—still we must lose no time.

Bloodletting will seldom be necessary—and if there be cool, or cold skin, with pallid face and small pulse, bloodletting might do harm. Then leeches to the head or temples, and repeated cupping to the back of the neck.

Purgatives are here extremely useful.

In this form, too, blisters to nape of neck—mustard poultices to the feet—warm baths to the feet, with flour of mustard in them, while cold is applied to the forehead and head.

Here again, as a congestive state of the brain exists, the calomel ought to be given—until the gums become tender.

If symptoms of sinking appear, the author has never seen advantage derived from ammonia, ether, camphor, and wine—for the case does not consist of mere prostration or debility, as in some of the preceding diseases; but there is a congestion, probably with effusion of serum on the *brain, which is* not likely to be removed by stimu*lants. They must,* however, be tried.

When the acute signs cease, and the state of palsy is left, we must treat as for palsy.

In no case, probably, is the adage of prevention being better than cure, more applicable than in the case of apoplexy—and it is no exaggeration to say, that very much may be done, not only to prevent an attack of apoplexy—but even to remove, in a great measure, the apoplectic tendency.

The first point to be attended to in this preventive system is the diet, both as to quantity and quality—the next, the mind, as to mental emotion and excitement. The quantity must be adapted to the powers and state of circulation of the individual.—In those of a weak habit, with cold skin and poor weak pulse, the diet may be plainly nutritious; but even in these habits, when there is a tendency to what is called blood to the head, stimulants should be cautiously tried—and perhaps had better be abstained from altogether.—The breakfast should consist of tea, with bread and butter—and, in the weak habit, an egg may be added—if it agree with the person. The dinner should be at an early hour, two, or not later than three o'clock, and may consist of a *moderate* portion of well dressed mutton, with well boiled potatoes or other vegetable.—At tea time, mere diluents; and at bed time, no supper, of anything but gruel and milk, or barley-water and a biscuit.

Coffee has been prohibited by Dr. Eberle in his practice of physic, as being "decidedly injurious when there is an apoplectic tendency," and mentions a case of apoplexy in a gentleman "who was in the habit of taking large quantities of very strong coffee twice daily." Dr. Eberle advised him to leave it off, and apoplexy "never recurred, and even the ordinary premonitory symptoms left him." —To tea, Dr. Eberle has no objection; but the writer must remark, that the gentleman took coffee immoderately—and very possibly he was exposed to much mental excitement and anxiety, perhaps from speculations in business, &c., which excitement would be more likely than coffee to excite disease—at all events, the writer has never seen any harm arise from coffee moderately drank. Theine and caffeine are identical as to components, says the chemist—*and if any apoplectic* person were very partial to coffee, *the author would not* be deterred from allowing it to be *taken in moderate* quantities, but not made too strong.

Tea is perhaps preferable—and green tea has been much

praised as a preventive. In the person of plethoric habit, who has been threatened, or has suffered an attack of apoplexy, the diet must be so reduced in stimulant, and even nutritious material, as to demand the sternest resolve in the patient to persevere.—Few people, even in these days of so-called civilization, have energy and strength of mind enough to follow up such a system of diet as would be best fitted to prevent attacks of this disease. Such persons it is in vain to tell that every full meal is full of danger to life; that it is like the sword of Damocles, ever ready to fall. The gratification of the palate, and the enjoyment of its pleasures, overpower, overwhelm, all other considerations; and their answer to the writer's well-meant advice and remonstrances has been, that though they might add some ten or more years to their lives, by following implicitly the author's directions, yet such a state of mortification and self-denial would to them render existence a burthen; it would not be enjoying life, for it might be considered no better than a state of vegetation. If any of our readers have elderly relatives so situate, and thus obstinate, the writer would advise, as the next best mode of acting under such a suicidal system, that they should induce the threatened persons to take, frequently, sharp purgatives. In this way, the bloodvessels do not fill so quickly as they would otherwise, nor does the blood become so rich in inflammatory elements—if the word rich may be allowed.

The tincture of colchicum seeds is useful as a preventive. Forty drops in water every night, until they can no longer be borne, the writer has given with advantage.

The tepid, or cold shower-bath, every morning—or whenever the giddiness, throbbing, or head symptoms show themselves, must be employed; but always the person must, before the shower falls, sit or stand with the feet in as hot water as can be borne comfortably.—This is important.—All tight ligatures around the neck to be avoided; also acts of stooping, as in tying shoes, picking up anything from the ground, &c., also, straining at water closet.

Violent exertions or exercise may bring on an attack. Abuse of any pleasure. Excess in venery is peculiarly fatal in some; and many a person has thus been sent to answer all his doings and sayings in this world when he was least prepared. Intemperance is highly prejudicial.

Where any discharges have been suppressed, or erup-

tions, or bleeding from piles, have been suddenly stopped, blisters, and mustard cataplasms, or stimulating liniments may be applied, and in the case of piles, leeches to the perinæum must be from time to time resorted to.

See a case, under the head of ERYTHEMA, showing how the injudicious suppression of a rather slight inflammation gave rise to apoplexy and death.

Where gout has seized on a joint, and is suddenly translated to the brain, we generally find that there is a co-existent, or that there has been a preceding state allied to debility, then purgatives and stimulants will be required, according to the patient's peculiar condition at the time.

PALSY OR PARALYSIS,

is a diminution or total loss of the powers of motion, and sensibility in certain parts of the body.

It may involve a loss of power over one side of the body from the head downwards, and is then called hemiplegia; or it may affect one-half of the body, taken transversely, and is then called paraplegia.

Besides these, there are partial palsies, certain muscles being alone affected. This kind may arise from poisons—as from the fumes or absorption of lead, in painters and glaziers.

Hemiplegia sometimes follows an attack of apoplexy; at others, it occurs independently.

Symptoms.—Voluntary motion or sensation, or both, are abolished in certain parts of the body—sleep, and slow soft pulse—torpor—giddiness—pain in the head—loss of memory—sense of numbness, of creeping or pricking in the affected parts. The eye and mouth may be drawn on one side—the judgment is impaired, and the speech more or less incoherent.

A decline of energy is often the precursor—and after long continuance of the disease, the muscles of the paralyzed part become, from disuse, flaccid and diminished in size.

The partial palsies will be described below.

When the brain, heart, or lungs are attacked, death soon ensues.

Causes.—*Whatever* tends to compress the brain—*impaired nervous energy*—determination of blood to the

head after suppressed discharges or eruptions on the skin—apoplexy—certain poisons—old age.

A sense of pain or of itching, with a return of sensation in the parts, is favourable; so is the return of any previously suppressed discharge. The more vigour remaining, the more favourable.

The palsy of the left side is said to be more dangerous than that of the right; and of the arms than of the legs.

Treatment.—If any apoplectic tendency remain, cupping or leeching, or even bloodletting—with purges—and then we must not be too busy, but leave to time and nature to effect a recovery.

If elderly persons, of weak powers, are our patients, we must keep up the strength, use the flesh-brush, give stimulants.

One tea-spoonful of mustard thrice daily in some water, or one of the following:—

No. 64. Of compound spirits of ammonia ½ dr.
Compound tincture of cardamoms . . . . . 2 drs.
Syrup . . . . . 1 dr.
Mint or peppermint water . . 1 oz.
every six hours.

No. 65. Of bruised horse-radish roots . . 2 ozs.
Mustard seeds } of each . . 2 drs.
Valerian root }
Rhubarb root cut small . . . ½ oz.
Sherry . . . . . 2 pts.
two table-spoonfuls every fourth hour.

No. 66. Of carbonate of ammonia . . . 6 grs.
Compound spirits of sulphuric ether . . . . . 1 dr.
Ginger syrup . . . . . 1 dr.
Camphor mixture . . . . 1 oz.
about every four or six hours.

Some recommend guaiacum.

No. 67. Of powdered guaiacum . . . . 10 grs.
Ammoniated tincture of guaiacum . . . . . 1 dr.
Powdered gum arabic . . . 40 grs.
Water . . . . . 1½ oz.
every four hours.

One of the following liniments may be rubbed over the parts:—

No. 68. Of tincture of cantharides } of each 1 oz. mix.
Soap liniment }

No. 69. Of powdered mustard seed . . . 1 dr.
Acetic acid . . . . . ½ oz.
Soap liniment . . . . . 1½ oz. mix

No. 70. Of tincture of cantharides . . . 1 oz.
Spirits of turpentine . . . . ½ oz.
Camphor liniment . . . . ½ oz. mix.

Frequent blisters, or mustard poultices; warm and salt water baths; regular exercise; handrubbing; galvanism, or electro-galvanism, cautiously tried. The strychnine is very efficacious; but no one but a medical man should administer such a drug; it requires constant watchfulness.

If bleeding from piles have been suppressed, leeches to the perinæum.

Paraplegia

often is attended with little or no disease in the brain; and it is then functional.

The same mode of treatment is to be adopted as in hemiplegia; only in these cases much benefit is often derived from the tincture of cantharides—thirty drops thrice daily for many weeks.

It should not, however, be given to women, nor to any who have disease in the urethra (passage from the bladder).

The cantharides may cause strangury, that is, difficulty and pain in passing the urine—then give barley or toast-water, diluting freely with some carbonate of soda in the drink; and administer a lavement of starch decoction, two or three ounces; and tincture of opium, twenty drops.

When paraplegia results from disease of the spine, the primary disease must be looked to.

Partial Palsy

of certain muscles, or of a joint, may follow an attack of fever—typhus mostly. The shoulder muscles and those of the forepart of the thigh may suffer; or this kind of palsy may be only a precursor of hemiplegia. But this kind *mostly attacks the face*, and then great alarm is felt of *poplexy; but no alarm* need be felt in almost all these cases.

When the nerves of vision are attacked, blindness ensues. When certain muscles near the orbit are attacked, the eyelid cannot be raised, nor the eyeball moved by voluntary power, though the eyeball rises above the upper eyelid the moment the eye is shut. Thus the distinctive symptoms are the dropping of the eyelids and squinting outwards.

When the fifth cerebral nerves are implicated, the muscles supplied by them are palsied; the muscles on the temples and side of mouth are palsied, so they remain flaccid when chewing. The sense of taste is lost—one side of the tongue is numb—and the eye and nostril of one side are insensible to any irritation—the mouth is drawn to one side.

When the sixth cerebral nerve suffers, there is a squint inwards—double sight in some cases.

The symptoms of diseased seventh nerve are—whole side of face flaccid and pendulous—mouth drawn to the opposite angle—nothing can be held by the patient between the lips of the affected side—the sound of whistling cannot be effected—and on laughing or smiling, one angle of the mouth remains at rest, while the other is drawn towards the ear. On taking a forcible inspiration (drawing in the breath), the nostril on one side collapses, nor can the patient dilate it by any voluntary effort. The eyebrow droops, and cannot be elevated when the other is raised, and the eyelids cannot be closed. This eye remains open during sleep; and the eye is apt to inflame.

These appearances are very curious. Sometimes these nerves are affected on both sides of the face; but rarely.

The eighth pair of cerebral nerves supply the heart, lungs, and stomach, with nervous influence; and a palsy attacking them is as dangerous to life as any attack of apoplexy or hemiplegia can be.

The danger to life is to be predicted in proportion as there is evidence of a co-existing or pre-existent disease in the brain. The palsy of the fifth, eighth, and ninth nerves, are usually the most dangerous; but a palsy of part of the fifth is frequently caused by exposure to cold, or to cold air, as in a carriage, &c. It is curious that Dr. Christison, from whose graphic account of these palsies the preceding abstract has been taken, says he has met with facial palsy, but never with *numbness*.

It must be a comfort to know that these are cases which

would seem to threaten palsy or apoplexy, yet which involve no danger to life, and moreover are often easily curable.

Treatment.—Blisters—to be repeated—or croton oil liniment may be rubbed in; so may other stimulating embrocations.—A warm drink in bed at night, with a dose of James's powder to elicit perspiration.

If these do not remove the symptoms, give what are called alterative doses of calomel. One grain three times a day—but salivation must be avoided—and the gums, therefore, must be watched—so as to stop in time.

If the patient be in bed, add tartar emetic one-sixteenth of a grain, or three grains of James's powder to each dose.

Indigestion—Dyspepsia

is thus described by Cullen—want of appetite—nausea—vomiting—flatulency of stomach—acid eructations—rumination—heartburn and pain at the pit of the stomach—with costiveness.

One or more of these symptoms are met with—and sometimes all.

Symptoms.—To those above stated—general debility, languor, and aversion to motion—depression of spirits—sense of fulness and oppression after eating—heartburn very troublesome—appetite irregular—costiveness, or sometimes diarrhœa—small pulse, quickened after eating, or on exertions being made—perhaps palpitation—flushed face after eating—tongue dry, and mostly white in the morning—urine may deposit and usually does deposit, either a red sediment (the lithic or uric acid) or else a white sediment (the phosphates) with an oily appearance, floating on its surface—then the skin and feet become cold—the face sallow—headache, dry skin, or else damp sweats—disturbed sleep—and hectic fever.

The vomiting is a most distressing symptom—it sometimes comes on as soon as food has been taken—at others, in one or two hours—and the matters ejected are sour. If the vomiting continue long, yellow bile will be at last pumped up—giving many persons reason to think that the liver is not performing its functions properly, and is the cause of the indigestion, whereas the bile is ejected by an *inverted action* of the bowel called the duodenum, which *is the immediate* continuation of the stomach.

The flatulence and belching may arise from gas, which

has been extricated from undigested food, detained in the stomach in a state of fermentation—or it may have been secreted by the stomach itself; for this symptom arises sometimes when there has been no food in the stomach. The distention caused by this gas is very distressing indeed in some cases.

The pain comes on at various times, and under various circumstances. Dr. Pemberton tells us that it may occur from organic disease, but when it forms one of the signs of dyspepsia, it may occur when the stomach is empty, and might arise, he thought, from an increased and altered secretion of the glands of the mucous membrane of the stomach; and secondly, it may occur when the stomach is full, and he thought it arose from irritability of the muscular coat, and not from any altered secretion.

Dr. Abercrombie says, pain occurs under four forms—the first is observed when the stomach is empty, and is relieved by taking food; as Dr. Pemberton also said: the food enveloping the secretion, if it is in small quantity—if it is in large it is thrown out by vomiting.

The second form is when it arises directly food has been taken. Here Dr. Abercrombie suspected undue irritability of the mucous membrane of the stomach, or a sub-acute inflammation.

In a third form, the pain begins after a meal, but not till from two to four hours have elapsed—here the pain would seem to be in the bowel named the duodenum.

In a fourth form, the pain is extremely violent, and attacks in fits or paroxysms, often affecting hysterical females, shooting up to the shoulder, and proving very intractable.

The remedies for these four forms of pain will be mentioned in the treatment.

By the vomiting, a thin, watery liquid is ejected, sometimes sourish, but usually insipid and tasteless. This is the waterbrash or, technically, pyrosis. Its paroxysms come on in the morning and forenoon, when the stomach is empty, with pain and a sense of constriction at the pit of the stomach—as if the stomach were drawn towards the back; the pain is increased in an erect posture, wherefore the body is bended forwards. This waterbrash is mostly an attendant on organic disease, but not necessarily so.

Causes.—Everything which debilitates the system or *the stomach—intemperate* use of food or drink, spirits in

particular; in tea, tobacco or opium; imperfect mastication; sedentary habits; too much study; certain depressing affections of the mind; errors in diet; diseases of the liver; hysteria; exposure to moist and cold air; deficiency or depraved secretion of the bile, or saliva, or gastric juice.

Treatment.—We must first regulate the diet, both as to quantity and quality, for the less the stomach is distended beyond a certain degree the better; and we must not forget that the supply of the gastric juice is always exactly regulated by the demand for it; the quantity of the secretion corresponding with the quantity of the food. But then, it must also be borne in mind, that the amount of the secretion is never greater than the requirements of the frame would demand—whence it follows, that whenever the food is too great, or exceeds the demand of the requirements, a portion of the food will remain undissolved, and so disturb the due digestion of the rest.

Then Dr. Abercrombie tells us, that various articles of food are soluble in various degrees in the stomach; and therefore, if in a weakened stomach articles of food are introduced of different degrees of solubility, the digestion will not be performed so well as it should be. Thus another rule is established in dyspepsia—which is for those threatened with it, to dine off one dish; for, by so doing, we not only avoid an injurious mixture of food, but we escape a probability of eating too much, by avoiding too much provocation or gratification of the taste by new and varied flavours.

The patient should masticate slowly—should eat at regular hours, and drink but little during and for a short time after taking food; also active exercise must be avoided for some two hours at least after digestion has commenced.

We must first ascertain whether high irritation or a slight degree of inflammation may be suspected to exist in the mucous membrane of the stomach, from the tenderness or pain at the pit of the stomach, and also from the state of the tongue, which is red at its tip and edges, as well as the more frequent pulse and greater febrile increase of symptoms in the evening; or whether the disease depends on mere debility of the digestive organs. In the former case *animal* food is not admissible, and, if taken, it will add to *the patient's* sufferings—then the lightest farinaceous

food must be taken — while leeches to pit of stomach, and fomentations, with alkaline fever draughts, are the proper medicines for such a state of sub-inflammatory irritation.

But where there is mere debility of the digestive organs, animal food will be preferable, and meat is to be preferred to animal jellies, since jellies remain long in the stomach, from their indigestible nature causing disturbance and distress.

Meat, again, should be that of full-grown animals, and not of young ones, for more mucilaginous matter is contained in the flesh of young than of full-grown animals, and mucilages are of difficult digestion.

Tender mutton, beef, or venison, and all kinds of game, are usually of easy digestion. Pork and veal are inadmissible. Fish will often not agree—and when eaten, only small quantities of boiled fish are allowable.

Geese and ducks do not suit dyspeptics, while turkey is more oppressive than fowl: fowl is, next to mutton, the lightest of animal food, but the skin must be avoided.

Of game, the pheasant is least easy of digestion. Partridge and hare are readily digestible.

Soft-boiled eggs agree with many persons, but the peculiarities of different stomachs as to digesting articles of food are most extraordinary; wherefore the medical man can only lay down general rules, and leave exceptional cases to each individual's own management. The author is now attending a gentleman who can with pleasure eat and readily digest a hard-boiled egg, but if he were to eat one lightly boiled, it stirs up an immediate disturbance in his stomach, and seems to act like a poison or irritant, for there is no ease till some loose, bilious-looking evacuations have passed from the bowels. My patient is in no degree fanciful, and is, moreover, a medical man.

All food should be roasted or boiled; frying is highly objectionable.

Some like new-made bread, but no aliment is perhaps more offensive to the weak stomach than this. By mastication it is converted into a tenacious paste, which is not easily pervaded by the gastric fluid.

Bran bread is useful, especially in costive habits.

The bowels must be regulated by a pill of blue-pill and compound extract of colocynth, three grains of each,

and a seidlitz powder next morning; then, if red tongue and feverishness prevail, with increased pain from hot liquids, a few leeches to the pit of the stomach.

The distressing symptoms must be alleviated, the

Vomiting

by reducing the food to what can be easily borne and digested, and by the draughts of bicarbonate of potash and hydrocyanic acid,—No. 4. The carbonic acid is powerful in assisting the vomiting, and the potash acts upon the acid products in the stomach, neutralizing the lactic acid, which is formed in imperfect digestion. So long alkalies will be useful, as the urine deposits an acid sediment,—it should be tested (*see* Gravel); and if it become alkaline instead of acid, the nitric and muriatic acids may be given, 5 to 10 drops of each dilute acid.

Flatulence.

Peppermint-water and other carminatives, with twenty grains of soda; and for the flatulence which follows eating, take immediately before the meal 5 grains of extract of rhubarb, with one grain of cayenne-pepper. For rumination, the soda or potash, with a tea-spoonful of sal volatile.

Pain.

For the first kind of pain, give a tea-spoonful of the aromatic spirit of ammonia, or half-an-ounce of liquid magnesia in camphor julep. Food relieves, or ten grains of powdered kino, and half a grain of powdered opium. For the second, the alkaline draught, with tincture of henbane or of opium,—ten or fifteen drops.

The third kind requires also the alkaline draught, as it depends on acid secretions or formations; an alkaline draught immediately after dinner—warm tea relieves.

Pyrosis, or Water Brash.

For the fourth kind, carminatives, mustard-poultices. Here the compound powder of kino, ten grains, with aperients to obviate costiveness.

Wine or spirits are better avoided throughout (*see* *Diet*).

Some of the tonic infusions (*see* Fever), may be the *vehicle for the soda* or potash.

Mr. Abernethy says that six hours should be the interval between meals; the stomach should get rid of one meal before it has to digest another. Medicines may do much good in indigestion—but the only sure preventive is to attend to the diet, with a summary of which we will close this article.

Strong coffee or tea, with toast, for breakfast—sugar and milk with the liquids; but as the sugar contains impurities, the author has recommended some patients never to use anything but syrup—a lightly-boiled egg is allowable.

For dinner, animal food well-cooked, but never fried. Mutton, venison, some poultry, winged game—but never dressed a second time—may be allowed; but fat meat, gelatinous meat (young pig, lamb, or veal), and strong soups; such fish as salmon, mackerel, herring; fish-sauces, melted butters are to be avoided.

Stale-bread alone to be eaten; all kinds of pastry bad.

For vegetables—cauliflower, asparagus, young peas, French beans, and mealy potatoes—always well boiled, may be eaten, and agree with the majority.

Fruits, better eaten before than after dinner,—strawberries, mulberries, peaches, nectarines, oranges, and grapes, may be usually eaten; but figs, currants, gooseberries, apples, plums, cherries, apricots, melons, and all kinds of nuts, should be interdicted.

If wine is urgently demanded, good genuine sherry-and-water is the best; the fine, dry, non-acescent wines are alone admissible.

Hypochondriac Affection, Vapours, Low Spirits, Hypochondriasis.

This disease, according to Pinel, should be called biophobia—for the low spirits of the sufferer have led to suicide at times.

It occurs mostly in the melancholic—its signs are sadness, want of resolution and activity—fear of danger to life—particular attention to health. The bodily functions do not suffer materially—there may be some signs of indigestion in some cases, but imaginary sufferings and symptoms are detailed.

The cause of this singular malady is supposed to be a *nervous affection of* certain nerves, called the ganglionic *system—a neuropathy*, technically.

Treatment must vary with the varying states. Symptoms of indigestion are to be treated as in dyspepsia.

We must not ruffle the sufferer's mind—nor rudely contradict him; nevertheless we must not trust to his statements of his sufferings—for self-deceived, he details imaginary ones; and the author has been told of utter sleeplessness, and want of appetite, when the servant, who always slept in his master's bedroom, had informed him that his master had slept all night like a top, and had eaten an excellent breakfast.

Change of scene, watchfulness, and time, often effect sound cures, when medicine could do nothing—except in the relief of urgent symptoms.

HYSTERIA. *See* DISEASES OF WOMEN.

EPILEPSY.

A sudden deprivation of the senses, with violent convulsive motions of the whole body, characterize this alarming disease.

The fit comes on at uncertain intervals, and lasts a longer or shorter time, generally from five to ten minutes.

A cry precedes sometimes—or a feeling, as if a stream of cool air were passing over the arms and legs upwards, towards the head; the convulsive motions of the limbs and body are violent—the facial muscles are distorted—eyes fixed and staring, or turned upwards, hands clenched, thumbs turned in upon the hands—face swollen and livid—foam or froth issues from the mouth—the tongue often bitten—the excretions are expelled involuntarily. To all these a state resembling sleep succeeds, but it is insensibility; which, however, is followed by a sleep of some hours.

The attack is usually at night while asleep—and thus, these convulsive motions differ from those in St. Vitus's dance, by the latter occurring in the day mostly.

The causes are various—some capable of removal, others not so, being dependent on incurable organic disease.

Treatment of a curative nature, it must be candidly confessed, ought well nigh to be despaired of—unless in cases arising from irritation in the bowels or elsewhere, which *produces* an effect on the brain, through what is now *called the reflex system* of nerves.

Here treatment is effective—and the author has treated

several such cases—and might have deluded himself into a belief that epilepsy was much more curable than it is. In some cases, worms have been exciting such fits, and worm medicines, with tonics, removed all attacks—in others, there have been irritating secretions in stomach or bowels. Here he has given:—

No. 71. Of	Calcined magnesia	1 dr.
	Epsom salts	1 oz.
	Dilute hydrocyanic acid . .	8 drops.
	Peppermint, or distilled water, or infusion of gentian .	8 oz.

Two tablespoonfuls two or three times a day, as the bowels are acted upon. The Epsom salts may either be diminished in quantity after a time, or discontinued altogether.

If the fits leave behind them a state of congestion, as shown by a clouded state of the mental faculties, giddiness, &c.—five grains of blue pill, or one grain of calomel for four or six nights, would be useful.

The worm remedies are detailed under the head of worms. Suppressed evacuations should be re-established, if possible.

An attack between the fourth and tenth year is often curable; but if it arise in one who has attained twenty-five years of age, Hippocrates says, it will continue during that person's life; this is, however, not invariably the case. Remove all exciting causes that are removable.

Epilepsy forms one of the most fertile fields for the quack that can be devised; the more incurable the disease, the greater number of infallible remedies are proclaimed; all of them are tried with eager hope, and with excellent profit to the quack, whose promises of cure rise with the occasion.

Ammoniuret of copper, oxyde, and sulphate of zinc, nitrate of silver, arsenic, wormwood, the wall pennywort, or cotyledon umbilicus, the root of the peony, the agaricus muscarius, artemisia vulgaris, or mugwort, with a long list of other so-called specifics, may be mentioned. But there is no known specific, and treatment must vary according to the state of the patient.

A late writer in the *Lancet* of February, 1854, says "a *rational investigation* must be made, as to whether

there is exalted sensibility or a tonic lethargy, whether there is congestion or repletion."

He suggests where there are warning signs, to administer a lavement of one ounce spirits of turpentine in eight ounces of warm gruel, and to apply mustard poultices to nape of neck.

Dashing cold water in the face is sometimes useful.

Where there is a full habit, nothing but lowering the diet, to what many would call starvation point, will prolong life, and prevent attacks in such persons.

The writer attended some years ago the father of a family of ten children, all solely dependent on his exertions, whose life was repeatedly endangered by the violence and frequency of the fits.

He was put upon a very spare diet of vegetables and farinaceous food, neither touching meat nor even fish; no medicines, except an occasional aperient, were given.

He has now survived many years, and though thin, is very active in his business, travelling often to London, and bustling about with his bit of dry, brown, branny bread in his pocket.

If, on the contrary, the patient is of weak powers and debilitated habit, the diet must be nutritious, though as unstimulating as possible; and meat once a day, with some green vegetable, may be advised, ham and bacon to be avoided, beer (not sour), cocoa, tea or coffee, may be allowed.

Sleep on a mattress, and avoid excitement of mind or over exertion of body. During the fits, cold to temples and forehead, or cold douche in a few cases—with flushed face, beating of temples, and bounding pulse, bloodletting, or leeches. Let not the patient receive hurt during the struggles and convulsive movements—put a bit of soft wood between the teeth, and have help to keep the patient down.

The main point to look to is the prevention of fits by attention during the intervals; and as we never can be sure whether the disease is incurable or not, we should cautiously try any remedy, which may be tried, by an unprofessional person.

Arsenic, the nitrate of silver, and some others, should *only be prescribed* by the medical man.

St. Vitus's Dance.—(*See* Diseases of Children.)

Sardonic Laugh,

Consists of a violent fit of laughing, arising from no evident cause, and continues for three or four nights, preventing sleep, and causing debility. It is so called from similar symptoms arising from eating a poisonous herb growing in Sardinia.

Little can be done by medicine. Opium should be given, and musk, assafœtida, camphor, and ether may be tried.

Tetanus, or Cramp.

This is a fatal disorder when severe, and may arise from wounds or bruises, apparently slight. It is, therefore, either symptomatic, or it may arise from exposure to cold when perspiring. The latter kind is not unfrequent in hot countries, rare in Europe.

Symptoms.—No premonitory signs, stiffness of jaws, pain and oppression at pit of stomach, the teeth become closed—this is trismus, or locked jaw.

The spasms extend to the muscles of the back, when the patient lies resting almost on head and heels, the spine forming an arch, or the muscles on the front of the body are affected, then the body is bent forward, the belly feels hard as a drum, the spasm extends to the arms.

The intellectual functions are not implicated.

The fits recur every ten or fifteen minutes; violent pain from stomach to back causes much suffering, the eyes are immovable, and the face peculiarly and shockingly distorted, till a fatal spasm takes place, and death.

When it proves fatal, death happens before the tenth day, but Professor Robinson records a case of a negro, whose thumb was lacerated in breaking a china dish, which caused death in a quarter of an hour.

Dr. James O'Beirne says, the period of recovery may extend from eighteen days to eight or nine weeks, and there are no critical symptoms.

Causes.—Predisposing—are the male sex—a vigorous, plethoric habit, warmth of climate, autumnal season.

Exciting—are exposure to cold, or to excessive heat, injuries, in the shape chiefly of lacerated (torn, ragged) wounds, which penetrate the sheaths of muscles (called *fasciæ); those which* do not penetrate the fasciæ are not

followed by tetanus, nor does it attack often after the wound has cicatrized (healed), nor during the inflamed state of a wound; it does not supervene upon burns, scalds, military flogging, nor injuries of the skin, provided such injuries do not affect the fasciæ. This kind of tetanus arises in from four to seventeen days after the infliction of the wound.

Irritations of stomach or bowels, mental emotions.

We may indulge some hope of recovery when cold has been the originating cause, when the fits are not very frequent, and do not quickly advance to a violent degree.

Treatment.—Acute tetanus is fatal, under almost every kind of treatment, and the writer has seen almost every remedy which has been recommended tried in vain.

Opium has answered best in large quantities; one lady took forty thousand drops daily, and recovered—cured, one dare not say.

The only remedy from which benefit was derived in the author's practice was tobacco in form of clyster, for the clyster relaxed the locked jaws long enough to permit nourishment to be given; the benefit was, however, only temporary.

But Dr. James O'Beirne's plan seems the only one likely to do permanent good—by it eleven out of twenty cases recovered. He threw up lavements of tobacco by a long clyster tube, so long as to throw the fluid high up into the bowel; to do this, requires care in introducing the pipe.

No. 72. Tobacco clyster.

Of Tobacco leaves	20 grs.
Boiling water	½ pint.

To stand for an hour, and strain for use.

He also gave croton oil to clear out the whole tract of the bowels, and to act as a derivative.

With these, the writer would apply pounded ice, by means of an ox bladder, to the spine, and perhaps give opiates.

To publish what has been tried in vain, would be useless. As draughts of cool air excite the paroxysms, they are to be avoided; and as to the wound, any splinters remaining in it must be extracted, and poultices assiduously applied *to promote the* formation of matter.

Cramp

May seize upon the arms or calves of the legs, and often at night. Where people are subject to these painful attacks, the author has prevented them by the following draught every night:—

No. 73. Of Bicarbonate of soda . . . 30 grs.
Compound spirits of ammonia (sal volatile) . . . 30 drops.
Water . . . . . 1 oz.
Syrup (if desired). . . . 1 drachm.

But aperients must be given occasionally, and the diet looked to, so that there may be no undigested food in the stomach on going to bed,

The following liniment may also be kept at hand by the bedside:—

No. 74. Of Liniment of soap . . . 6 oz.
Tincture of opium . . . 1 or 2 oz.

Rub with this, or rubbing with the bare hand will relieve. If in the leg, keep the heel down; if in the arm, keep it straight.

Hiccup, or Singultus,

Though not dangerous, is often very troublesome, and may continue for a considerable time.

It depends on acid, or some irritating matter in the stomach, and relief will be obtained from the soda, &c., draught No. 73.

Whooping Cough.—(*See* Diseases of Children.)

Breast Pang, or Angina Pectoris.

An acute constrictory pain at the lower end of the breast-bone, rather on the left side and extending to left arm, accompanied with great anxiety, palpitations at the heart, impeded breathing, and a sense of suffocation, mark the attack.

The patient is attacked usually while walking, and especially while walking up an ascent, or facing particular winds—he stops immediately, and the distress may soon vanish.

But after repeated attacks, slighter causes produce one, and the fits are more violent.

At a more advanced stage the pulse becomes weak, intermits, or is irregular; the countenance becomes pale; there is constant cough, with an ejection of thick mucus; cold sweats; the sufferer cannot lie down, and ere long death terminates existence.

Causes.—It is most common to studious and sedentary persons, and those of gouty or rheumatic habit, and after the age of fifty. As various functions and organic disorders of the heart either accompany or cause this affection, all exertions, or sneezing, coughing, straining, or even speaking, will bring on a paroxysm (fit).

Treatment.—During the attack, distressing symptoms must be relieved. Stimulants should be given; a glass of spirits and water with fifty to sixty drops of tincture of opium in it, and repeated in twenty minutes or thereabouts, or this mixture, which the patient should always carry about him.

No. 75. Of Compound spirits of sulphuric ether . . . . ½ oz.
Aromatic spirits of ammonia . . . . . 1 dr.
Tincture of opium . . . 2 drs.
Camphor mixture . . . 7 oz. Mix.
Two tablespoonfuls every half-hour until relief ensues.

Putting the feet into hot water, if feasible, directly, may relieve. Some recommend a mustard poultice.

This liniment should always be at hand.

No. 76. Of Soap liniment . . . . . 5½ oz.
Extract of belladonna . . . ¼ oz.

Rub over the chestbone about a tablespoonful of this liniment. During the intervals the sufferer must try to remove and avoid all the exciting and other causes. If there is fulness of habit it must be reduced by a spare diet, and by avoiding everything heating, or anything exciting to the mind.

Issues, setons, have been recommended.

The digestion must be specially attended to; for imperfect digestion, or too full a stomach, is very likely to bring on palpitation, and with it the fits. For flatulence give a *soda draught* with sal volatile, and one drop of hydrocyanic acid.

Fainting, or Syncope.

The symptoms of complete syncope are not unlike those of sudden death, and in some few cases death does ensue.

A person about to be attacked with fainting feels a great inward distress and faintness—the eyes become dim—there is a singing or buzzing in the ears—the face and lips lose their colour—the person becomes unconscious—cold perspiration follows—the person falls to the ground, and the respiration and pulse cease for the time.

Vomiting, convulsions, and a fit, may terminate the attack.

Causes.—Mental emotions. Bloodletting beyond the powers and strength. Nervous irritability, debility, excessive pain, diseases of the heart.

Treatment.—During the fit, which may persist for some minutes, though usually it lasts only a few seconds, lay the head low, and keep it so.

Apply stimuli to the nostrils.

Administer a lavement of two drachms of pure water of ammonia in a pint of warm water. This has been successful in several cases.

Sprinkling cold water over face and forehead.

When the power of swallowing returns, the mixture, No. 75, without the opium.

To prevent the recurrence, if there is debility, bark, steel, tonics.

Giddiness of Head—Vertigo,

Is usually a symptom of other ailments, and must be treated as they are. It is often one of the first signs of a coming mischief in the head, and should not be neglected.

Asthma.

This disorder is marked by difficulty of breathing, coming on in fits or paroxysms, usually commencing at night during sleep. Great anxiety—stricture across the breast—palpitation—and a short dry cough attend—the breathing becomes wheezing, laborious, gasping, and even suffocative—while the countenance betrays anxiety. Fresh air is urgently sought, wherefore the patient rushes to the open window *from the bed* in which he can no longer lie recumbent.

The surface is cool—face bloated, and livid, or pale—the veins of head and neck are turgid—the pulse varies—may be intermitting, or too active, and full, or natural. These symptoms continue a certain time, when the breathing becomes less laborious and anxious, and towards morning copious expectoration ensues with relief.

During the ensuing day the sufferer is pretty comfortable, but on the next night the fit returns, and this series of occurrences goes on for four or five days longer before it finally subsides. This is what is called humoral asthma, but there is a state of congestive asthma in which the expectoration is much less copious than in the former, and there is also a state of what is called dry or spasmodic asthma, in which little or no expectoration is visible.

The urine during a fit is usually at its commencement pale or colourless and odourless, but after the fit has terminated it is of a high colour, and deposits a sediment.

Causes.—Heart diseases, in which of course the asthma is merely symptomatic. Strong mental emotions; hereditary tendency; full meals; exposure to cold and moisture; certain effluvia, as those from ipecacuan, hay, noxious vapours, any internal irritation; rheumatism or gout.

If asthma have once attacked, the fits are apt to return periodically, or when excited by certain atmospheric changes; certain vapours; indigestion; obstructed perspiration; increase of the circulation from over exertion.

This disease is more susceptible of cure when it occurs in an early period of life, and in habits not much debilitated; also when it arises from accidental causes or from internal irritations, capable of being removed—but frequent fits, weak pulse, palpitations, and great impairment of the powers, with the threatening of other diseases, dropsy of the chest or limbs, denote an unfavourable issue.

Treatment.—The violence and duration of the paroxysms must be reduced. Small bleedings, in full habits, or when there is great oppression at the chest, with full pulse, may be ordered; if pulse is small, dry cupping. An assafœtida glyster is very useful, speedily removing or moderating the distressing flatulence.

No. 77. Of sulphate of magnesia (Epsom salts) ½ oz.
Olive oil . . . . . 1 oz.
Sugar . . . . . 1 oz.
Tincture of assafœtida . . . . . 2 dr.
Boiling water . . . . . 12 or 16 oz.

Dissolve the salts and sugar, add oil and the tincture when nearly cold.

Expectorants, as tincture of squills, twenty drops in an ether mixture.

The Indian tobacco, lobelia inflata, in some cases acts like a charm. From half drachm to a drachm of the tincture, and the tincture is made by putting one ounce of the herb in half a pint of alcohol. This, however, in some cases acts like a poison, depressing the pulse and nervous energy; so, if one dose do not give some relief, it had better not be repeated.

In the debilitated, stimulants, strong coffee, ammonia, and ether with opium must be given.

Inhaling ten drops of chloroform, but no more, unless under a medical man's eye. A warm foot-bath sometimes relieves.

To relieve the distressing flatulence which often precedes the fit, Dr. Guy recommends alum 10 grains, ginger 5, and rhubarb 3 or 4 grains, three or four times a day.

Where oppressed breathing remains after the fit, the congestion should be removed by small doses of calomel, one grain, night and morning, with five grains of Dover's powder for seven or eight days. Between the fits, take care of the diet and bowels, tonics with alkalies and expectorants.

The shower-bath or cold water sponging has prevented fits. If there is any tenderness in the spine, rub it with stimulating liniments, or with this, which may bring out an eruption of yellow-headed angry-looking pimples, then rub no more, but poultice.

No. 78. Of Tartar emetic . . . . 40 gr.
Rose or distilled water . 2 oz.
Dissolve, and add of tincture of cantharides one oz.

The belladonna liniment (No. 76) may be useful, or belladonna plaster, either during or between the fits.

Canine Madness.—Hydrophobia, or Dread of Water.

This terrible disease arises in from six weeks to eighteen months after a bite from a rabid animal, either dog, cat, fox, wolf, and jackal, some say sheep. The wound, it may be, has long cicatrized, but a painful sensation arises in its site, *and it often becomes* red. The pain extends upwards to

the body, the patient feels ill, then irritable, and feels a stiffness and pain about his neck and throat; then unexpectedly he finds he cannot swallow any liquids, and every attempt to do so brings on a paroxysm of choking and sobbing most distressing to behold.

There is thirst, the saliva becomes thickened, is secreted in greater quantity than usual, and escapes from the mouth in a frothy state. This escape of saliva renders the breathing rather difficult, and increases the noisy gasping of the patient, giving rise to the idea of his barking like an animal.

The patient is in an extremely irritable and excited state, and owing to this a current of air, the waving of a polished surface, the noise of water falling or being poured from one vessel to another, brings on or increases the paroxysm. He makes no attempt to bite or hurt any one; and there is no delirium.

Death may take place within from twenty-four hours after the commencement of the specific symptoms; but it commonly happens on the second or third day, though it may be postponed until the seventh or eighth.

In some cases liquids can be swallowed before death.

The symptoms of this disorder in the dog are, he becomes heavy, dull, and knows no longer those to whom he has been attached. He snaps at the air, drinks his own urine and dung, and swallows dirt, straw, and other articles within his reach. He roams about with back arched and tail drooping, he runs or swims through water without difficulty. He will bite other animals if he comes near them, but will not go out of his way to do so. Other dogs avoid him, the voice is altered, the bark is between a bark and a howl, ending with a short howl. This howl is peculiar, and Mr. Delabere Blaine can recognise madness in the dog by it alone, and the dog dies in from six to eight days after the first attack.

Rabies is as frequent in spring, autumn, and even winter, as in summer. M. Trolliet says that January (the coldest month), and August (the hottest in the year), are the very months in which the fewest examples are met with.

Dr. Madden says that one in sixteen of those bitten have the constitutional disorder; but Scarpa deems this too low a calculation. Out of 131 bitten, only one manifested hydrophobia by the third day, and only three before the eighteenth.

The period of greatest danger is between the fourth and sixth week. After this, the longer the period the less danger. From six weeks to three and a half months is the average period during which the poison may lie latent. Dr. Parry says the shortest period is twenty-three days, and the average period is forty-five days, so that we may place the minimum period at twenty-one days, the maximum at nine months.

The saliva or mucus contains the poison, and the poison ceases with the life of the animal. It must be introduced into the system by a bite, or by application of it to an abraded skin. But horses are said to have gone mad after eating straw on which rabid pigs have been lying, or the fluid may be deposited on the claws of animals, as cats, &c., and be so inoculated.

We must distinguish hydrophobia from tetanus. In the former the slightest draught of air, a sudden touch, or smallest drop or even the sight of water, bring on the choking spasms—not so in tetanus.

Treatment is very unsatisfactory, prevention is everything; but fortunately few who are bitten become affected, owing to the saliva being left in the clothes above the bite, or to the poison not being intense.

Let a surgeon take out the bitten part; if none be at hand heat a wire to a great or even a white heat and cauterize the part, and some courageous persons have cut a bit of stick the size of the bite, put it into the wound, and cut out all round it.

Sucking or a cupping-glass to the wound may prevent.

Mr. Youatt trusts to the lunar caustic, (nitrate of silver,) which is made like a pencil; put this wetted to the bottom of the wound; then poultice. He has thus operated on and saved four hundred persons, not losing a single case.

Dropping strong nitric acid or caustic liquor of ammonia into the wound may be practised if no lunar caustic be at hand; but the local application should be made as soon as possible after the bite.

As to preventive drinks or specifics, numbers have been tried in vain, guaco, the Ormskirk powder, &c. They are only useful in filling the pockets of the quacks.

COLIC

Is a painful distension of the lower region of the belly, *accompanied by a twisting pain round the navel, by vomit-*

ing, costiveness, and spasmodic contractions of the muscles of the belly.

This disorder is divided into several species.

1st. The spasmodic form.

2nd. That arising from costiveness or from acrid matter in the bowels.

3rd. That from lead poison.

4th. That in newly born children.

5th. That from calculi or concretions in the bowels.

6th. That from worms.

It is highly important to distinguish colic from inflammation of the bowels, which latter disease may prove fatal, and in which most active treatment is requisite. In inflammation of the belly, there is fever with tenderness and pain, increased by pressure and by the breathing even. In colic there is no fever, and pressure will give ease, the patient often lying on his belly to obtain more ease; the pain, too, in colic, comes on in fits of very violent pain, which succeed intervals of ease. However, we must not forget that long continued colic will now and then bring on inflammation.

Treatment.—Should the sufferer be young and vigorous some blood may be taken or leeches applied.

If much nausea and bilious vomiting attend, give the saline draughts while in effervescence, adding to each twenty to thirty drops of tincture of opium.

When the sickness is abated give blue pill four grains, calomel two grains, and compound extract of colocynth four grains, in two pills. In about three or four hours give the salts and senna mixture; but in all cases administer lavements or enemas. When much flatulence attends, nothing succeeds better than the assafœtida clyster, thus prepared:—

Assafœtida Clyster.

No. 79. Take of prepared assafœtida . . 1 drachm.
Decoction of barley . . . . . ½ pint.

Mix, and throw the fluid up as high as feasible, but gently. Give carminatives.

No. 80. Of camphor . . . . . 5 grains.
Spirits of sulphuric ether . . . 30 drops.
Tincture of opium . . . . 20 to 40 drops.
Compound tincture of cardamoms . 1 drachm.

Rub together and mix, then add water one ounce.

Or this:—

No. 81. Of compound tincture of cardamoms 1 drachm.
Tincture of opium . . . . . 30 drops.
Peppermint water . . . 3 tablespoonfuls.
Mix. Repeat this according as the pain seems to demand.

The writer recommends flatulent persons to have these drops always at hand:—

No. 82. Antiflatulence drops—
Of Liquor of potash,
Strongest (saturated) tincture of ginger,
Compound spirits of ammonia, of each 1 oz.

Mix, and add of cyanide of potassium $1\frac{1}{2}$ gr. Keep the bottle cool, well corked, and covered from the light, and before using shake the bottle well. The dose is sixty drops in an ounce of water, or of peppermint or aniseed water.

The warm bath, or opium-poultice, or hot flannels and fomentations will relieve. The diet must be looked to between the attacks, so that as little irritating matter as possible may have to pass through the bowels.

But there is a kind of colic, arising from concretions, or irritating matters in the bowels, or from one portion of the bowel slipping into another lower portion, and it has been called the

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Iliac Passion.

This arises, in many cases, from mechanical obstruction of the bowel, and the symptoms, from commencing with those of colic, soon assume those of inflammation of the bowel,—the inflammation being a consequence of the obstruction.

The symptoms.—Costiveness. Aperients are taken without effect, and when repeated, griping, nausea, and sickness follow. Clysters are given; some hardened masses are brought away without relief; then fever symptoms set in, with vomiting of matters, that at last look as if they consisted of the excrementitious matter itself.

Prostration, with hiccup, cold sweats, and failing pulse, precede death. In the case of intestinal concretions, they first obstruct, mechanically, the passage through the bowel; then inflammation supervenes, and mortification.

The symptoms are much the same as those of ileus, only

that, in emaciated persons, the concretion, when it is of a large size, may be felt by placing the patient on his back, with knees bent.

Otherwise, we have no other evidence of their existence than after they have passed away by stool. There is a constant desire to sit on the watercloset; yet with all the straining, nothing is expelled until the concretion arrives at the lower part of the lower bowel, where it stirs up great disturbance and the most furious straining. It can then be taken away, being within reach, by a pair of forceps or pliers, or it is at length forced away by the natural efforts.

These concretions are caused to form, by sedentary occupations, inactivity, indolence—by a weak state of the digestive powers—by a large use of magnesia and calcareous earths—by swallowing various other things,—the husk and beard of the oat, bones, cherrystones, or seeds.

Dr. Copland, in a well written article on Intestinal Concretions, tells us of cases which arose out of either depraved appetite or bad habit, such as that of chewing the ends of thread used in sewing, and which have formed a firm felt with the mucus of the bowels and other matters. In another case, the young lady had been in the habit, from the age of thirteen or fourteen, of chewing, and sometimes swallowing, portions of the grey paper with which she curled her hair. After much suffering, about twelve concretions, from the size of a filbert to that of a walnut, were evacuated.

Treatment.—In such cases, purgatives and clysters are nearly all we can do, with effervescing draughts to allay vomiting; but, first, always make sure, by proper examination, that there is no hernia or rupture.

The writer has had several cases of obstinate constipation in colic, and after trying other remedies, he has succeeded in eliciting motions by the tobacco-clyster—only we dare not administer tobacco if there is much prostration; but assuredly tobacco powerfully relaxes the bowels; still care is indispensable, and it is almost too dangerous a remedy for any one but a medical man to use.

Those who are obnoxious to colic should be very cautious as to what they eat; for the author was called to a groom, *within a few hours* of his death, who had been subject to *colic, and who was* seized with colicky pains, after eating *two golden pippins.* The moribund man received no benefit

from anything, though pain had suddenly left him, from mortification having set in.

After death, a portion of the large bowel was found black and mortified, but contracted in diameter, and in that contracted part were discovered several of the apple-seeds, and of thin, sharp-edged, stiff capsules of the core of the apple. Yet this slight irritation was sufficient, in one predisposed, to set up an action that terminated in death.

Had the tobacco-clyster been tried early in the attack, might not a different result have been expected?

Colic from Worms.

It would seem, that in the economy of nature every species of animal is liable to be infested by its peculiar parasite or parasites, which are developed in and protected by its various textures, and draw their sustenance from its juices; and man himself is subject to a greater number of parasites than any other living being.

In some instances, these parasites have their own peculiar parasites, as in the largest ichneumon of the tiger-moth. This ichneumon seeks amongst lettuces, nettles, currant bushes, strawberry beds, &c., for its object of attack, and when it has found a caterpillar, "it seizes it behind its head with its jaws. At this operation," says Mr. Newman (*History of Insects*), "the caterpillar loosens its hold of the plant on which it was feeding, rolls itself suddenly into a ring, erects its bristles as stiffly as possible, and falls to the ground: if the fall is great and among twigs, the ichneumon is sometimes dislodged; but this rarely happens.

"The female ichneumon has three bristles at its tail; and the middle one of these appears to be a tube for conveying its eggs into the body of the caterpillar, and is called an ovipositor; the outer ones seem to serve as protectors to this ovipositor, and not to be used for piercing the caterpillar. When the caterpillar can fall no farther, it frequently unfolds itself, and writhes about to dislodge its enemy; but its struggles are useless: the ichneumon elevates its body into a kind of arch, bending the ovipositor formed beneath it, nearly to its mouth; it then steadies the ovipositor by its hind legs, and with a slight jerk drives it into the skin of the caterpillar,

behind the head—the egg is instantly deposited, the ovipositor withdrawn, and the ichneumon flies away. The caterpillar then remounts the plant, begins to feed eagerly, and there seems to be no difference in its growth afterwards.

"The ichneumon's egg is soon hatched, and begins eating that part of the caterpillar which is immediately in its neighbourhood, and continues its course towards the tail, devouring all the fat and muscular parts not essential to life," avoiding, by a wondrous instinct, those parts essential to life, as though it was aware that the cessation of life in the caterpillar would insure its own death, as it could not subsist on the putrefying carcase.

"The caterpillar of the tiger moth is preyed on in a similar manner by the maggot of a two-winged fly, and this maggot, while thus devouring the interior of the caterpillar, is itself a prey to a minute kind of ichneumon, twenty of which sometimes feed in the maggot of a single fly."

The various worms that infest the human frame are these —in the small intestines (bowels)—

The Round worm,
Tænia, or Tapeworm,
Second kind of Tapeworm.

Another kind infests the large intestines—the rectum, or lower bowel—the urinary bladder, the gall bladder, the kidney, the eye, the liver, the spleen, the ovary, the bronchial glands, the substance of muscle, the brain, and the cellular texture, all have their respective parasites.

But we are interested chiefly in the flat worms, round worms, and thread worms.

Symptoms are those which proceed from the irritation of worms in general, and those which are caused by each peculiar kind.

From worms infesting the bowels arise—pain in the belly, like that of colic, twisting round the navel; though sometimes pain is absent, as is usual in cases of tapeworm, which worm is so soft in its texture as to give rise to no definite sensations, except such as might arise from the length and bulk of the worm interfering with the movements of the intestines. The round worm causes pain *more frequently*, probably from its firmer texture and *sharpened extremities*.

These pains, gnawing sensations, &c., may not proceed

from worms, and we cannot be sure till we have seen some worms, or fragments of them, thrown up by vomiting or ejected by stool.

The evacuations are mostly unnatural in quantity or quality, and there is either costiveness or looseness, or these states may alternate. The stools are of mucous character, or they may be offensive; the belly is swelled, and there is much windy distension, the tongue is loaded, the breath heavy, and bad smelling.

Irritation about the Anus.—The system may sympathise with this state, and there may be headache, giddiness, ringing in the ears, disturbed sleep, picking of the nose, grinding of the teeth, dilated pupils, convulsive affections.

TAPEWORM.

The common tapeworm of this country is generally from five to ten feet in length, and in breadth from the fourth part of a line at its anterior part to three or four lines at its posterior part, where it again diminishes.

The head is small, and somewhat flattened.

"These worms are rarely passed entire," says Dr. Farre, from whose complete account I am extracting; "single joints often come away, especially in children, or portions of two or three feet in length are voided; but it is very rarely that the portion on which the head is situated is thus passed. There appears to be no limit to which the worm may grow. If we are to credit the older authors, many hundred feet have been attained; but there appears to be no reason to doubt that worms measuring sixty feet are of occasional occurrence. As many as eighteen or twenty worms have been passed in the course of a few days; but, frequently, they occur singly.

"The first symptom giving evidence of the existence of this worm is—the passage of a joint or two from the bowels, but there may be the usual signs already described."

The constitution is more or less affected, sooner or later, in these attacks, though portions may be passed for several years.

Treatment.—Turpentine, when it can be taken, is decidedly the best remedy here. It is best given *combined with castor oil;* about three-quarters of an ounce of

each should be given, two or three hours after a full meal, rather than on an empty stomach: and broths and mucilaginous decoctions must be freely taken; while, to avoid sickness, the patient should remain at rest.

These doses should be repeated with intervals of a day or two, but with every precaution; symptoms of nausea and vomiting, and almost alarming intoxication, ensue, or a "general chill and paleness, and sometimes a tendency to sleep."

These states will, however, go off after a time, but if turpentine cannot be borne; then give the pomegranate root in decoction, or to a child of nine years of age, twenty grains of the dried bark were given every hour for five hours, when, forty minutes after the last dose a living tænia was expelled.

Decoction of Pomegranate Root.

No. 83. Of the fresh bark . . . . . 2 oz.
Boiling water . . . . . 1½ pints.

Boil down to three quarters of a pint; two ounces of this to be given every half hour for four doses. But this bark causes sickness, giddiness, and trembling sometimes; it, however, acts like a poison on the tænia.

In Abyssinia, the kousso is the remedy generally used. The plant is a brayera anthelmintica, and the way to use it is this:—

No. 84. Of the powdered flowers . . . . ½ oz.

Infuse for a quarter of an hour in lukewarm water; ten ounces for a grown-up person. A little lemon juice is to be swallowed, and then, stirring up the infusion, swallow the whole, both fluid and solid, at two or three draughts, being washed down with cold water and lemon juice. To promote its operation, tea, without sugar or milk, may be taken.

In three or four hours, if the bowels have not operated, a dose of castor oil or a saline purgative should be given. For children a much smaller dose must be given. No very evident symptoms follow the kousso thus taken, but in some cases slight nausea and thirst, or slight vomiting, may occur.

This kousso expels the tapeworm; but the worm has *recurred in* some cases.

A Monsieur Darbon has a specific at Paris, which Dr.

T. Watson has not seen to fail—is it the kousso? It is a secret.

In February 1854, Dr. Budd recommended strongly the oil of the male fern in cases of tænia; it does not always cause the evacuation of the head of the worm, but kousso also fails in like manner.

He begins with three grains of calomel and four of scammony, the first night and morning—and at four a.m. the next morning, castor oil one ounce, then two hours afterwards give two drachms of the oil of male fern, mixed up in a sufficient quantity of mucilage of gum arabic. The patient was forty years old. All the joints, except the head, came away about nine next morning. The medicine made him giddy and weak; perhaps repeated doses would succeed. The larger the joints are, the farther from the head. There are two kinds of tapeworms; one common in this country, the other in Switzerland, Russia, Poland, and part of France; but the treatment is the same for both.

Tonic medicines, bitter infusions, &c. will aid in giving tone to the bowels. Purgatives must be given occasionally to remove the mucus from the bowels, which mucus may be a nest for the worm. Alston recommends zinc filings, giving first a purgative, then an ounce of the filings are to be taken in four ounces of treacle.

The Round Worm.

This is often met with in badly fed children. It exists in the small intestines; but it sometimes crawls upwards to the mouth. This worm is from five to eight or ten inches long; it is round and smooth, of a white or yellowish colour. It looks like a common earthworm in some respects, but the mouth, which is marked with three small prominences, distinguishes it.

These worms may exist alone, or there may be a great many in the bowels, and the mucus is much increased. Dr. Hooper tells us of more than two hundred having been voided in a single week.

Dr. Heberden states the symptoms to be pains in the head, giddiness, sudden waking from sleep, and unpleasant dreams, fever, thirst, paleness of face, bad breath, picking of the nose, difficult breathing, great craving for food; the patient gets thinner and thinner, bearing down

and itching at fundament, slimy motions, swelled belly, grinding of the teeth during sleep. In long standing cases, a thick, nasty-looking eruption appears on the face, sometimes forming one entire crust over it.

Treatment.—Active purgatives.

No. 85. Of calomel . . . . 2 or even 5 grs.
powdered jalap . 10 grs.
,, ginger . 4 grs.

Rhubarb may be given instead of the jalap.

To work off these powders, castor oil or infusion of senna, one ounce and a half; and tincture of senna and of jalap of each one drachm.

After due action of the bowels, the sulphate of iron, or the tincture of the muriate of iron, is efficacious.

Of the sulphate of iron, one grain may be given three times a day, made up into a pill. For children the tartarized iron.

Drs. Evanson and Maunsell strongly recommend this electuary:—

No. 86. Of powdered jalap, crystals of tartar, carbonate of iron, of each . . . . . 1 oz.
Powdered ginger . . . . . 30 grs.

Half a teaspoonful three times a day, or treacle may be added, so as to make an electuary.

The writer has found great benefit in cases of round worm, from giving oil of turpentine, and castor oil mixed, as was recommended in tape worm.

Bremser gives the following electuary for three or four nights, and he says he has seldom occasion to repeat:—

No. 87. Of the seed of the Santonicum or worm seed, of the seed of the tansy (Tanacetum), both bruised, of each . . ½ oz.
Powdered valerian . . . . 2 dr.
" jalap . . . . . 90 grs.
Sulphate of potash . . . . ¼ oz.

Oxymel of squills, enough to make an electuary.

A teaspoonful every night and morning for four days, *or until* an ample purgative effect is produced.

If this electuary be too disagreeable to take, the whole *of the above ingredients*, except the oxymel, can be made

into a powder, and then into pills. Sometimes we must interpose an active purgative.

The Thread Worm.

This is the smallest worm which infests man; the males are about two lines in length, the females about five; their colour is white.

These occur often in large numbers, and masses of them are sometimes expelled, enveloped in mucus, or rolled into a ball, and they are now and then found in the neighbouring passages, of both male and female. Their chosen seat is the lowest bowel.

The symptoms peculiar to these irritating worms are a great, almost intolerable itching of the anus (fundament), coming on towards evening, and increased by warmth and exercise.

Besides this irritation, there is usually some dull pain in the part, which is rubbed by the sufferer, until hard small swellings form, in consequence of the friction; which swellings might give an idea of piles on superficial examination.

There are frequent calls to relieve the bowels, and slimy mucous evacuations are passed, with perhaps some blood in them.

The depraved appetite, the weak digestion, pains in the head and stomach, with giddiness, gripings, sickness, picking of nose, foul breath, cough, and dreaming, disturbed sleep, may one or more attend cases of thread worm, as of round worm. The peculiar characteristics are the local itching and uneasiness, which is very great, owing, it is supposed, to the great activity and restlessness of the worm in leaping about.

Treatment of Thread Worm.—The difficulty in managing these cases arises from their multiplying so fast, and from their position, from which it is not easy to dislodge them. Even when we have succeeded in nearly clearing the bowel of them, the few that are left multiply with amazing rapidity. Our objects in treatment are to promote the expulsion of the worms, and to remove the habit of body, or the causes, which favour their formation.

The local *treatment is the more important part of treatment; and first, there should be no rubbing to relieve*

pain and itching, which may be better done by applying cold cloths to the part, and by lavements of olive oil, or olive oil with a few drops of creasote added, may be used as a liniment externally.

But lavements of simple infusion of quassia are effective, says Dr. Schultz, one drachm of quassia shavings to one or two ounces of water.

Dr. Darwall ordered injections of tincture of muriated iron, half an ounce; in water, half a pint. He said, "there are few cases so obstinate, that this will not suffice to overcome," or of sulphate of iron, grains two to five, cold water four to six ounces—an excellent injection.

Lime water, as an injection, is also useful—to it one drachm of tincture of aloes may be added.

To improve the general habit, purgatives, such as one or two grains of calomel, with double the quantity of scammony, will dislodge the worms, and bring away a great deal of mucus; thus depriving the worms of their support.

Jalap, too, is a good purgative.

Mechanical means employed to bring away these worms are, the introduction of a candle or a piece of lard, or pork, with string attached, which will bring away many.

Some introduce the finger, or a scoop.

Tonics must be persevered in—the tonic infusions, the preparations of iron.

Occasional purgatives must not be forgotten.

The diet must be nutritious, but plain, while flatulent vegetables must be avoided.

Guinea Worm

Infests the cellular structure under the skin, and it is usually met with in the feet and legs, but occasionally in other parts. Its length varies from that of six inches to twelve feet, and its diameter, which is the same throughout or nearly so, is rather more than half a line. The colour varies from whitish to dark brown. The outside is marked by minute circles. It is viviparous. It seems that it is capable of changing, though slowly, the positions which it occupies in the cellular membrane, and its final expulsion is effected by a process of local inflammation, *which is followed* by the formation of pus or matter.

It mostly is single, though in some places as many as *twelve have*, and even fifty, been found in the same indi-

vidual. This parasite is peculiar to warm climates, abounding in Upper Egypt, Arabia, Abyssinia, and Guinea.

The general opinion is, that it is introduced into the body through water, as while bathing; in corroboration of which opinion we find that the water carriers in India suffer from its fixing in the skin of their backs, which is in contact with the leathern water bottle.

Symptoms.—Uneasiness and itching in the site occupied by the worm, a slight cord-like elevation indicating its seat; a vesicle (little bladder), or a little spot of yellow fluid (pustule) forms, which at length gives exit to the head of the worm. The constitution sympathizes, and there is more or less of febrile irritation.

Treatment.—Never break the worm, for then abscesses would form, with acute inflammation, and cause much trouble. If the worm is short, it may be sometimes extracted at once, but great care is required in pulling on the worm—the moment resistance is felt, stop all traction; then, to prevent the protruded portion from going back into the skin, wind it round a piece of sticking plaster or a bit of stick: keep this in contact with the part, and cover with light dressing.

The natives often cure, at once, by guessing where the centre of the worm is situated, cutting down on it, and extracting both ends.

The external parasites of man comprise the louse, the itch insect, and the chigoe.

Of the louse, there are four kinds: that infesting the head, the crab louse on the pubis, the body louse, and the louse of the eyelash.

These are easily removed, by cleanliness, shaving off the hair, and always by mercurial preparations; as white precipitate in powder, or mercurial ointment, well rubbed in.

The itch insect is cured by sulphur, which poisons it.

The chigoe is peculiar to warm climates; it penetrates the skin of the toe mostly, and lodges its eggs, to the number of sixty. These eggs are hatched after a time, and cause much irritation and annoyance.

The eggs lie in a little bag, called a cyst; and this cyst must be extracted entire, for, if broken, an ulcerated sore forms, and proves very troublesome,

Colic from Lead.

The symptoms are those of ordinary colic, perhaps more violent; the whole belly is tense, and there are irregular knots or lumps from the contraction of the muscles—the spasm is so violent that even a clyster pipe cannot be introduced, such is the spasmodic resistance;—the restlessness is constant,—and there is a frequent vomiting of an acid, or onion-smelling matter, especially after taking food.

If no amendment be procured, the symptoms become violent, the costiveness obstinate, and a dangerous inflammation is set up in the bowels, which terminates in mortification.

Generally, the first attacks are recovered from, the constipation ceases, and ease follows; until, after a longer or shorter period, another attack ensues—though, even first attacks may be followed by pains in the head and limbs, or by cramps, or even epilepsy and coma.

At last, after a certain number of attacks, the sufferer finds he has lost the use of one or both his hands; the wrists drop, and when the arms are stretched out, the hands hang dangling by their own weight, nor can the patient raise them by any effort of his will.

The affected muscles waste, especially those of the ball of the thumb, Recovery is still possible, but if the person continues to expose himself to the cause, the poison accumulates in the body, he becomes a cripple, falls into a bad habit of body, and dies.

A very peculiar mark of lead being in the system, has, within the last few years, been discovered by Dr. Burton. It is a blue or purplish hue, running along the edges of the gums, where they meet the teeth. A knowledge of this fact, if lead turn out to be the only metal which produces this blue line, may be of practical use in various ways.

The colouring material is probably sulphuret of lead, or a similar salt, which is thus formed in the tartar or incrustation around the teeth. The tartar is porous, and admits into its substance fluids charged with animal matter, which would furnish sulphuretted hydrogen, and this would form, with the lead present, a sulphuret, giving the characteristic; certain it is that the blue colour existed *wherever there* was a tartareous incrustation of the *teeth.*

Treatment of Lead Colic.—The great object is to obtain action of the bowels; afterwards, to treat the palsy, and prevent returns of colic.

Bleed, if the pulse be full, the pain in the belly be increased on pressure, and signs of fever are coming on.

Then the warm bath, and a lavement of warm water while in the bath.

Diligent frictions with some stimulating liniment, or linen wrung out of hot turpentine may be laid on.

Give, calomel, ten grains; and two of opium. Then a full dose of castor oil; or, if castor oil do not act, give an ounce of castor oil and a drop or two of croton oil added to it; and we may repeat this alternation of calomel and opium with the oils.

After free motions, recovery soon ensues.

Thus advises Dr. T. Watson, and the practice seems to be the best possible. But Dr. Gendrin, of Paris, cures with sulphuric acid—forty-four drops to a pint of water, and two or three pints are drank every day. It is sometimes vomited at first, but it is retained in a few days. The pains diminish after the first, second, or third day, and as they diminish, the bowels act naturally. No other medicines are given—no lavements, nothing but a daily sulphur bath ordered. At the commencement the sulphur in the bath combines with the lead in the body, and a black insoluble sulphate or sulphuret is formed on the skin; and this incrustation on the skin is so great that those who go into the bath with white skins, come out with black, like negroes. The patients are to brush away this incrustation, with a brush, and soft-soap half a pound. These baths were repeated till the skin remained of the same colour on coming out from, as on going into, the baths.

The preventive system is of importance with all who are exposed to the causes of lead poisoning.

In the first place the workmen should drink daily one or two glasses of the preceding sulphuric acid lemonade, and Mr. E. Benson gives to his workmen the following sulphuric beer instead of the lemonade.

No. 88. Of Treacle . . . . . 15 pints.
Bruised ginger . . . $\frac{1}{2}$ lb.
Water . . . . . 12 gals.
Yeast . . . . . 1 quart.
Bicarbonate of soda . $1\frac{1}{2}$ oz.
Sulphuric acid . . . $1\frac{1}{2}$ oz. by weight.

Boil the ginger in two gallons of the water; add the treacle and the remainder of the water, hot. When nearly cold pour the whole into a cask, add the yeast to ferment. The ferment nearly over add the acid, previously diluted in eight times its weight of water; add the soda dissolved in one quart of water; close up the cask, and in four days all will be fit for use. This soon spoils.

Secondly, cleanliness, washing head, hands, face, &c., and bathing to keep the body clean; clothes of linen, not woollen, and they should be often washed, all clothes left in the workshop.

Thirdly, cleanse hands and lips before eating; and lastly, it would be well to guard the air passages by mask or respirator.

Vomiting from Sea Sickness.

Vomiting is a spinal act, and may be excited through the agency of several different nerves, as in the vomiting, caused by irritating the fauces and palate.

Secondly, in that caused by an emetic, or by gall stones, or by stones in the kidneys; and thirdly, in the vomiting of early pregnancy.

In this state of sea sickness the greatest relief is obtained by remaining perfectly quiet and motionless in the recumbent posture on deck or exposed to the fresh air; and the best remedy is to take a small teaspoonful of Cayenne pepper in some liquid sweetened. This directly restores animation, and causes the seemingly stagnant blood to circulate in its proper course.

Cholera

may be divided into English cholera, or mucous gastro enterite, and into malignant or Asiatic cholera.

English cholera commences with nausea, pain, and distension of the belly, with frequent vomiting and purging of bilious matter, which at last becomes mucous. Tongue furred—pulse frequent and small—thirst. Death is said to have taken place in twenty-four hours, with hiccup, cold sweats, cramps, and convulsions. The skin assumes a livid hue under great prostration.

Causes.—Heat—transitions of temperature—autumn—

improper diet—certain fruits, as cucumbers, melons, &c.—irritant poisons—active or violent purgatives.

Treatment.—If this disease do not kill before the third or fourth day, recovery is to be expected; but the more violent the cramps, and the greater the prostration, the worse.

Soothe irritability of the stomach, opium is the sheet anchor, indeed, the only remedy; give sixty to one hundred drops of tincture of opium; and nothing is to be taken into the stomach for half an hour afterwards, in order that the medicine may not be rejected by vomiting.

A lavement of laudanum, forty drops in warm water. If the drops are thrown up, repeat thirty to forty drops every fifteen minutes until its influence on the system is fully obtained. A large mustard poultice over pit of stomach, or else reddening liniments—hot turpentine cloths may be applied, only the smell often provokes the vomiting.

The irritability may thus be quieted in sixty to eighty minutes, and Dr. Eberle says, if from six to eight grains of opium can be introduced and retained in the stomach for fifteen to twenty minutes, we may calculate with certainty on the speedy subsidence of the disease.

But if it be rejected by vomiting we must apply it externally thus:—Mix two parts of nitric acid with one of water, and with this liquid wet a sponge, and apply it over the region of the stomach. As soon as pain is felt wash the part with a solution of carbonate of potash—the cuticle may now be easily detached so as to leave the underlying true skin exposed and raw. Upon this surface sprinkle from one to two grains of acetate or muriate of morphia, and cover with a piece of linen, on which simple cerate has been spread. In this way we combine counter irritation and an anodyne, or soothing remedy.

Irritability being a little subdued, give calomel one grain every three or four hours, to act on the liver—but opium must be added if there is much vomiting.

For the cramps rub with this—

No. 89. Of Soap liniment . . . 8 oz.
Cyanuret of potash . 20 grs.
Tincture of capsicum . 1 oz. or 2 oz.

The warm bath useful.

If there is great prostration give

No. 90. Of Sulphuric ether . . . . . 1 oz.
Camphor . . . . . 1 dr.

A teaspoonful of this every half hour until the cold clammy sweats and the coldness of the body, of the legs especially, are giving way. Then give less frequently until the scarcely perceptible pulse has at length become fuller and more indicative of power.

Mild mucilaginous fluids may be given warm, only observing the direction, after the first dose of opium.

So barley water freely given will be serviceable.

After the attacks, animal broths, &c., and gentle tonics, as in convalescence from other complaints.

Asiatic, or Malignant Cholera.

This disease has only been known in this country since the year 1817.

It commences with diarrhœa, of some hours or days' continuance; then symptoms of sinking rapidly set in, with vomiting. What is rejected from the stomach, as well as what comes from the bowels, is without smell or colour, and resembles rice water more than anything else. Very painful cramps begin in the fingers and toes, and extend to the calves of the legs, and to the belly; the eyes sink down into their orbits, and a dark colour surrounds them; the face seems to have shrunk away, and it, with the entire surface of the body, assumes a bluish or purple hue—the nails are blue—hands cold and clammy—the pulse becomes a mere thread, nearly imperceptible—great restlessness and throwing about of the arms—incessant thirst—the drawn-in breath is difficult, and the expired breath is short and convulsive—the voice dwindles to a whisper—the breath is cold—the heat of the body descends to 79 or 77 degrees—from the natural degree of heat of skin. The urine is suppressed, and not a drop is passed.

This disease may terminate in recovery—in stomach-fever—or in typhus—and it may prove fatal in from one hour to twelve or more. More than half the cases are fatal within the first twenty-four hours—and about a sixth of them within six hours.

In the early period of the epidemic nine-tenths die—or, *on the* average, about a half—as the epidemic influence *diminishes*, more and more recoveries ensue.

Causes.—Debility, however induced—intemperance—

impure air and certain vapours or miasms from cesspools and putrefying or decaying animal matter—low and damp situations—the summer and autumnal seasons. The exciting cause is a peculiar contagion, floating or wafted about in the atmosphere.

When the cramp ceases, the vomiting and purging also, and bile reappears in the motions, and urine is passed, while the pulse becomes fuller, the skin warmer, we may hope for recovery.

Treatment.—It is of the utmost importance to stop the looseness of the bowels. This may be usually done, if the proper medicines are taken early.

About twenty grains of the powder of chalk and opium every four hours will prove sufficient—to be given well rubbed up, with peppermint or common water—or this mixture.

No. 91. Of Chalk mixture . . . . . 4 oz.
Tincture of catechu . . . . $\frac{1}{2}$ oz.
Tincture of opium . . . . $\frac{1}{4}$ oz.
A fourth part of this every four or six hours.

Other astringents may be tried, if this mixture fail.

When the stage of collapse has arrived, it is to be feared that little has ever been effected by medicines, and little will be.

Dr. Stevens recommended saline powders in this and other malignant diseases, and they have been tried in cholera without any marked amendment. His prescription is:—

No. 92. Of muriate of soda,
common table salt. 20 grs.
Carbonate of soda . 30 grs.
Chlorate of potash . 7 grs.
Every hour till the vomiting ceases.

His object was to supply the salts, of which the blood had been deprived in the evacuations, conveying away the serum—which serum contains these salts. But the deficiency of saline ingredients in the blood is the effect, not the cause.

Dr. Graves recommends acetate of lead with opium.—*See* SPITTING OF BLOOD.

Dr. T. Watson relates a case of recovery after several thirty-grain doses of calomel had been taken—yet, it was a very bad case.

The author would try Dr. Ayre's plan of one grain of *calomel, every five minutes,* or two every ten minutes, and

with the first two or three doses, give two or three drops of laudanum—*till the collapse yields.*—Eleven hundred grains have been given, before recovery followed.—Consecutive fever has thus been prevented.—Cold water, freely, for drink.—Large doses will not succeed.

When fever follows it is typhoid, and must be treated like typhus—&c.

For the cramps, rubbing with the liniment, No. 76,—to which ten grains of cyanuret of potash might be added.

Chloroform externally has relieved the cramp.

No. 93. Of Chloroform . . . . . 1 oz.
Soap liniment . . . . 7 oz. Mix.

Wine, brandy, quinine, ether, ammonia, &c., &c., have been tried.

Our hopes must be placed chiefly on stopping the diarrhœa—and on the mildness of the attack.

Looseness of Bowels, or Diarrhœa.

Frequent and copious discharges of feculent matter by stool, accompanied by griping, and sometimes by vomiting, characterize this disease—but there is neither fever nor inflammation, nor contagion.

Emaciation follows long-standing cases.

Treatment.—If the motions are frequent, and accompanied with bearing down, give an ounce of castor oil, with fifteen to thirty drops of tincture of opium—but if the discharge from the bowels be abundant—give twenty grains of compound chalk powder with opium three times a day—allowing gruel, arrowroot or sago, and forbidding all solid matter.

But if the disease do not yield, the mercury with chalk powder, one or two grains, should be added to each dose of the chalk powder; or we may give Dover's powder, four or five grains, with the mercury and chalk.

When the belly feels tender on pressure, calomel and opium, one grain of calomel and five of Dover's powder thrice daily—with hot turpentine applications—or a blister to the belly—various astringents are given.

No. 94. Of aromatic confection . . 1 drachm.
Tincture of catechu . . 1 oz.
Chalk mixture . . . . 6 oz.
Ginger syrup . . . . ½ oz.
Tincture of opium . . . 30 drops

Two or three table-spoonfuls after each liquid.

Tincture of kino may be substituted for the tincture of catechu.

Dr. Elliotson strongly recommends this—

No. 95. Of Sulphate of copper . . . ½ gr.
Powdered opium . . . . 1 gr.

Thrice daily.

To prevent attacks, avoid wet and cold feet—intemperance—and all improper articles of diet.

DIABETES

Is divided into three species—one with limpid urine, not sweet—a second with urine of the smell, taste, and colour of honey—in the third the urine contains chyle.

The symptoms of the first kind are white tongue—indigestion—dry skin—debility and depression—constipation—gnawing at the pit of the stomach—frequent desire to make water—urine itself is greatly increased—amounting, in some cases, to forty pints daily, when the natural average is about forty ounces, or an imperial pint and a half.

The specific gravity of the urine is in health from 10.15 to 10.25—in diabetic urine, it averages 10.40, and ranges from 10.25 to 10.50.

Causes.—Excessive use of liquids—of spirituous liquors—a fit of hysterics causes undue secretion of the urine—any irritation, local or general.

Treatment.—Abstain from drinking—take animal food—encourage perspiration by a warm bath—by Dover's powder, five to eight grains, two or three times a day.

Tonics or strengthening medicines, as muriatic or nitric acid with opium.

The honey urine diabetes is a very serious, and mostly unmanageable complaint. The patient's attention is first directed either to the quantity of water he voids—or to some shining spots on his boots or on the ground whenever a drop of his urine happens to have fallen—on which spots the flies are observed to settle. The urine is of a pale straw colour—smelling like hay—tasting sweet and containing sugar. There is constipation—white tongue—thirst—indigestion—gums red and tender—throat dry—*appetite inordinate*—the breath has sometimes an odour *like that of hay.* The patient becomes thinner—weaker—

more irritable and desponding—he becomes melancholy and anxious.

The disease may continue for months, or even years; until the patient dies exceedingly emaciated and exhausted.

Carbuncles often accompany diabetes.

Few people recover from an attack of this disease—and the cure, if cure do take place, is always tedious and difficult. Dr. Eberle saw but one case of recovery out of six which were under his care.

The causes are obscure—there would seem to be an hereditary tendency.

Treatment.—Three indications of treatment—first, to restore the defective power of the digestive apparatus—secondly, to cut off, or restrict as much as possible, the supply of saccharine matter from without—and thirdly, to mitigate or remove distressing symptoms—so says Dr. T. Watson.

As the very essence of the disease is placed in the digestive system—we should be able to cure the disease at once if we could procure a natural state of the digestion.

We must, therefore, prevent any facility for adding to the sugar already in the system, by excluding every article of diet, which is either saccharine in itself, or may be converted into saccharine matter. Animal food furnishes but scanty material for the formation of sugar—accordingly, Dr. Rollo, some fifty years ago, discovered that a diet consisting exclusively of animal matter had a most extraordinary influence in reducing the quantity, and in lessening the sweetness of the urine in this disorder.

Could patients live long without eating anything but exclusively animal food, it would be well, but none can long endure to do so; and then with any, the slightest relaxation in diet, back would come the sugar in the urine, and suddenly the urine would be increased in quantity.

The animal diet may be varied—and all kinds of meat, game, poultry, and eggs, may be eaten—but without any vegetable matter.

If vegetables must be permitted—green garden stuff, such as spinach, celery, cabbage, and the like, may be taken with less risk of increasing the sugar in the urine than potatoes, and those vegetables which contain a proportion of sugar or of starch.

When the patient will not be ruled as to diet, and *indulges* without restraint, the disease advances with

rapidity and is soon fatal—but with care, life may continue for several years—neither are medicines useless, for they may prevent more mischief than would otherwise exist, and they may decidedly control the diseased action going on.

The drain upon the powers of the body caused by the common discharge, is the origin of the emaciation and hectic—and if some portion of the food were not taken up and employed in the process of nutrition, a fatal event would soon take place—and our object should be to increase the quantity of food, which is supporting the strength. A judicious system of diet is to be recommended—one that will least increase the saccharine matter in the blood and urine. Fruits are bad. Bread, if it must be eaten, should be stale and well fermented, and there is a bread made for diabetics, called gluten bread. The meals must be moderate—great eating would be dangerous. Drinks to be limited—tepid animal broths—distilled water—and if the patient have been used to much drink, diminish it gradually.

Cupping or leeching sometimes useful.

Opium is a powerful drug here—it quiets irritation and checks the discharge—although it will not prevent the formation of the sugar. Dover's powder, contains opium; give five grains of it thrice daily—if the ipecacuanha in this Dover's powder disagree, by causing or increasing vomiting; then give opium alone, half a grain in pill. The hot air bath—warm clothing—flannel—skin rubbing.

Creasote, one drop, with gum arabic; mucilage, one drachm; and water, one ounce, three times a day—or it may be given in pills. Professor Berndt cured a case by eight drops daily of creasote.

Mercurials, prejudicial.

Aperients, when necessary.

Dr. Clay tells us of three cases cured by the following mixture, and no relapse followed.

No. 96. Of Tincture of muriated iron . 2 drs.
Sulphate of quinine . . . 8 grs.
Tincture of opium . . . 90 drops.
Distilled water . . . . 6 oz.

Of this two tablespoonfuls every four hours.

The permang*anate of* potash two or three grains thrice *daily, has cured.*

But there is a long list of remedies which have been narrated as infallible, yet have never stood the test of a fair trial.

Sugar in urine occurs in that of man alone, and of no other animal.

Dr. Percy recommends this as a substitute for bread. Take the woody matter of sixteen pounds of potatoes *washed free from starch*, three quarters of a pound of mutton suet, half a pound of fresh butter, twelve eggs, half an ounce of carbonate of soda, and two ounces of dilute muriatic (hydrochloric) acid.

Divide this quantity into eight cakes, and bake in a quick oven till nicely browned.

MILKY OR CHYLOUS URINE is a rare disease; the urine is of a milky appearance, and coagulates into a jellylike substance, which separates into a white clot and a clear yellowish fluid—or a white flaky matter is deposited—or a white cream arises to the surface.

This disorder may be palliated by bloodletting, spare living, sweating medicines, laxatives and opiates; no cure.

ATROPHY, OR MESENTERIC DISEASE, *see* DISEASES OF CHILDREN.

CONSUMPTION.

This fatal disease begins in various ways, and often fails to attract attention till the malady is far advanced.

Sometimes it appears after a common cold or catarrh, when the cough continues troublesome, long after the other symptoms have disappeared; or it may follow other diseases; or it may set in with merely a short dry cough, occurring on rising in the morning, and so slight that attention is not attracted to it.

The earlier symptoms will be weakness and languor, with a disinclination for any exertion—there is more or less of difficulty of breathing, or rather shortness of breath—want of appetite—some thirst, and a pulse either habitually too quick, or else too easily accelerated.

Then the patient expectorates a little, and a little blood appears in the expectorated matter.

After a time these symptoms become more and more troublesome, and perhaps a considerable quantity of blood is thrown up by coughing; then the mucus thrown up begins to change its character, becoming thicker, and

mixed up with little round masses of a peculiar matter wrapped up in the mucus, or free from it—these masses on agitation with a stick in water will sink to the bottom —there is often a hoarse voice as a very early symptom— and now hectic fever sets in.

HECTIC FEVER

Is a remittent fever, arising from local irritation in weakened habits of body.

Its symptoms are—chills—then flushings of face—a hot skin and frequent pulse, to which perspiration succeeds—forming a paroxysm of hectic fever.

Two such paroxysms occur every twenty-four hours—the first usually about noon, which abates in four or five hours; but it is soon succeeded by the more violent paroxysm, which does not terminate until two o'clock in the morning; when sweating puts an end to it.

The usual febrile symptoms mark this fever—the pulse ranges from 98 or 100 to 130, but always remains too quick—the urine is high coloured, with sediment—but the cheeks are flushed, and there is a florid, circumscribed redness—there is also a sense of burning heat in the palms of the hands and soles of the feet.

The patient rapidly loses flesh—the appetite falls off—sweats, which seem to melt away the strength, are checked only to be followed by exhausting diarrhœa—when at length the respiration becomes very difficult, and death releases from suffering.

The treatment of hectic varies with that of the disease, of which it is an accompaniment.

The expectoration is at first of mucus—then little points of matter like softened cheese are seen, which sink in water—sometimes the expectoration is more or less yellow or green—but the expectorated matter, most characteristic of consumption, are globular flocculent masses, which, when spat into water, spread out in a round form like a piece of money—hence the French call these masses, nummular expectoration. Louis says, he has met with these round, separated, woolly masses, only twice, unconnected with tubercles—still they are not characteristic of consumption, but *may sometimes be* met with, in other diseases.

The changes which take place in the lungs are ascer-

tained by listening to the sounds made in breathing—to do which effectually a practical study of auscultation must have been gone through, so we omit these indications—saying merely that they point out to the practised ear the site of the diseased deposit in the lungs—the extent of the deposit—and the changes in it—the softening of the matter.

The approach of consumption is often very insidious—debility—emaciation—indigestion, &c. &c., with slight cough—but in all cases there is a marked undue quickness of pulse, while it is also small. Dr. Guy, in some excellent practical remarks, has seen the pulse amount to 140 when debility was the only marked symptom. Pain in the forehead and eyes, and also palpitation sometimes, are the first symptoms attracting attention.

We will now speak of spitting or coughing of blood.

Hæmoptysis.

This discharge of blood is frequently caused by the existence of tubercular matter in the lungs; and in 1381 cases of consumption it occurred in the proportion of 63 per cent.—563 males, and 307 females in 1381.

The symptoms are oppression at the chest—dry tickling cough—pulse frequent—difficult breathing—salt taste in mouth—flushed face—then a cough, with discharge of more or less blood—more or less of fever.

Causes.—A certain age, from about fifteen to forty-five—a full habit—hereditary predisposition—and it may be excited by exertions in singing, &c.—by the suppression of certain discharges, as of the menses for one—by certain states or disorders of the heart—by tuberculous deposit. We must distinguish blood brought up from the lungs, by its florid red colour and frothy admixture—by its expulsion through the means of a cough.

We should examine the nostrils, gums, and upper gullet, to make sure that the blood does not come from thence.

Now this hæmoptysis may be cured in almost all cases, except those in which consumption has become declared and confirmed.

Treatment of Coughing of Blood.—We must remove fulness in the chest by a bloodletting, if the pulse be full,

the face flushed; if there is much distress of breathing, and if the blood is thrown up in considerable quantity. But we may leech or cup in less grave cases.

We must keep the patient quiet by low diet, repose; cold liquids or ice—and the patient's head should not be suffered to lie low. Then when the system has been freed from fulness of vessels and from active fever symptoms, we may give astringents.

No. 97. Of Dilute sulphuric acid . 15 drops.
Tincture of opium . . 10 drops, or more.
Syrup of roses . . . 1 dr.
Water . . . . . 1 oz.
Every third or fourth hour.

If these acid draughts do not stop the bleeding, give the sugar of lead—but watch the gums for the blue line as described at lead colic. Stop as soon as this blue colour begins to manifest itself.

No. 98. Of Purified sugar of lead
(acetate of lead) . 6 gr. to 12 gr.
Extract of opium . . . 3 gr.
Conserve of roses . . enough to make into 6 pills; 1 to be taken 3 or 4 times a-day.

Or, it may be taken in a fluid form.

No. 99. Of Purified sugar of lead . 2 gr. or 3 gr.
Dilute acetic acid . . . 30 drops.
Tincture of opium . . . 5 to 10 drops.
Syrup . . . . . 1 dr.
Water . . . . . 1 oz.
Every four hours.

Whilst this acetate, or sugar of lead, is given, vegetables must be avoided; as also everything which might bring on an evolution of carbonic acid gas. For then a carbonate of lead would be formed; and the carbonate of lead is poisonous.

If the hæmorrhages have been thus checked or stopped, we may give alum.

No. 100. Of Alum (sulph. of alumine). 10 gr.
Epsom salts . . . . . ½ dr. or 1 dr
Diluted sulphuric acid . 20 drops.
Syrup of white poppies,
or simple syrup . . 1 dr.
Distilled water . . . . 1 oz.
Every four hours.

Treatment of Consumption must be varied according to the state in which the deposit in the lung may be.

Before the deposit has softened, repeated counter-irritation; sea voyages in tropical regions during the cold seasons,—uniform temperature, a residence in certain climates. (*See* CLIMATES.)

With these, if there is no excitement, give cod liver oil, preparations of iron, in small doses, liniments to produce an eruption. (*See* SCROFULA.)

In the stage of softening, where there is abundant expectoration, an emetic or two—every week for two or three weeks.

No. 101. Of Tartar emetic . . . . ½ gr. to 1 gr.
Powdered ipecacuan . . 20 gr.

Or this:—

No. 102. Of sulphate of zinc. . . . 20 gr.

To be taken in the morning, and warm water or camomile tea to encourage the vomiting.

Then we must obviate the most distressing symptoms:—The night sweats, by the sulphuric acid draughts, 20 drops for each dose. Sponging the chest every night with warm nitro-muriatic lotion has been useful in the writer's practice, and husbanded the strength. For the distressing cough, emulsions.

No. 103. Of Almond emulsion. . . 6 oz.
Tincture of opium . . 1 dr. or more.
Medicinal hydrocyanic acid . . . . . 6 to 10 drops.
Ipecacuan wine, or tincture of squills, of either 60 to 90 drops

One-sixth part 2 or 3 times a-day.

Against the wasting diarrhœa, give the chalk and opium, or chalk and catechu mixture. (*See* DIARRHŒA.)

A night pill,—

No. 104. Of Compound squill pill . . 2 gr.
Soap pill . . . . . 4 gr.
Blue pill . . . . . 1 gr. or 2 gr.

Make 2 pills, to be taken every night at bedtime.

Inhalations relieve some—and warm water with a few *drops of* henbane in it, may be inhaled.

For side pains—mustard poultices—blisters—*stimulating liniments.*

Corpulency

May become an absolute disease. If the secretion of the bile is impeded, the fat is slowly absorbed from the body. The fat may be reduced, if the patient will follow directions.

Dr. T. K. Chambers found that by gradually reducing the diet down to a small quantity, and giving 30-drop doses of the liquor of potash, much benefit has been derived. He raises the dose from 30 to even 90 drops three times a-day, in milk and water as the best vehicle. Soap is an old remedy for too great corpulence.

Ten ounces a-day of solid food are sufficient.

Breakfast should consist of dry toast or sea-biscuit; and if much active exercise is taken, a small piece of lean meat. Dinner early, about one o'clock, on lean meat, stale bread, or biscuit, macaroni, or biscuit pudding. No liquids at the meal; but in half an hour afterwards. No more solid food during the day. For supper, a piece of biscuit with some water; a cup of gruel before going to bed.

We must not despair of so reducing the weight as to enable the person to take exercise; and the later in life the disease commences, the more favourable the result.

Fat, oil, butter, and all oleaginous food should be interdicted.

For exercise, walking, riding, rowing, or shooting.

Vinegar is used by many in great quantities, and it was a great favourite with young ladies who wished to be genteelly thin; but it can only be successful by producing indigestion, or by destroying the powers of the stomach and preventing it from digesting anything.

Dr. Chambers gives several instances of great obesity being reduced by giving the liquor of potash as ordered above, and by a steady adherence to the diet recommended. (See his interesting little work on *Fat* and *Corpulence*.)

Arsenic influences the secretion of fat—but it is a remedy only fit for medical men to use—and it acts, perhaps, prejudicially on the stomach—so as to impede due digestion of the food taken.

Windy Swellings—Emphysema.

This sort of swelling arises from a distension, or blowing-up of the cells in the cellular membrane of the body. It is imitated by butchers when they blow up veal for sale.

It is generally caused by a broken rib or a wound in the chest; for in these cases as the air is drawn into the lungs during respiration, so it issues forth by means of the communication made between the inside and outside. Every successive inspiration adds to the size of the swelling, until the whole body is swollen to an alarming size; the features being greatly swollen, as well as the rest of the body. On pressure with the finger a crackling may be heard, which is caused by the air being pressed from one cell into another.

This emphysema need not give alarm, when it is a consequence of a broken rib—since it will disperse as the rib bone unites. It sometimes arises spontaneously, or occurs after delivery.

Treatment.—Evacuate the air by scarifications; that is, dipping the shoulder of the lancet or knife into the swelling, just deep enough to penetrate to the confined air; then press with the hand.

If difficulty of breathing and pain exist, bleeding and laxatives may be useful.

Rub the distended skin with spermaceti ointment.

But there is another kind of emphysema, which exists in or on the lungs, and within the chest, brought on by straining efforts of the voice, violent cough, by certain diseases, and by certain states of the heart.

The general signs of this state are:—Habitual dyspnœa (difficulty of breathing); fits of hard breathing; cough sometimes; palpitation as the disease advances; no fever. The fits occur in the night, and on lying down; or they are severe, if there be much wind in the stomach; dropsy of the ankles, which creeps upwards. The expectoration is of a thin fluid, like gum-water, and full of foam.

At length the countenance becomes pale and of bluish colour; the body is emaciated; and if inflammation be added, death soon ensues. These are signs, very distinctive; but he alone who can use the stethoscope can make himself acquainted with them.

Treatment.—No cure. We must remove aggravating causes.

Warm weather agrees—hence warm clothes in cold weather; the feet to be kept dry and warm.

To harden against colds and inflammations being brought on, apply tepid shower bath, until the cold shower bath can be used.

If the fits are violent, or the difficulty of breathing great, and the wheezing is heard loud and long, we may cup between the shoulders, and give the following,—

No. 105. Of compound spirits of sulphuric ether . . . 30 drops.
Acetate of morphia . . ½ gr.
Camphor mixture . . . 1 oz.

The blueness of the lips, which deters us from giving opium in bronchitis, here depends more on the temporary or spasmodic state, and opium acts beneficially.

The emphysema just described is called the vesicular, consisting of an enlargement or rupture of the air-cells; and there is another kind, called interlobular, in which the air is contained, not in the enlarged air-cells themselves; but in the cellular membrane of certain parts of the lungs.

This will cure itself, and little can be done by art to accelerate the absorption of air. If air appear under the skin, or there is a crackling on pressure, let out the air, and press.

TYMPANY

Is a violent drum-like distension by gas of the bowels or the belly itself.

The disease may come on suddenly or slowly; flatulency and noises in the bowels are heard; the air is frequently expelled both upwards and downwards; there are colicky pains; the belly is swollen, hard, and tense as a drum; it sounds hollow: costiveness, and difficulty in making water, all attend on this disease.

When the air escapes from the bowels, through some ulceration, it is the second kind of tympany.

Causes.—Anything causing loss of tone in the bowels—errors in diet; abuse of purgatives; of spirituous liquors; crude or badly boiled vegetables; nervous irritability or sensibility.

Treatment.—We must procure the ejection of the air, and prevent its reaccumulation. Ether, oil of aniseed, oil of turpentine, ginger, cardamoms, capsicum, horseradish root, tincture of rhubarb, alum. (*See* the remedies for Flatulence *under the head of* INDIGESTION.) The assafœtida clyster is *very efficacious usually*, or turpentine thrown up.

The belly may be rubbed with warm stimulating liniments, or a tight bandage may be applied.

To prevent the recurrence, give tonic (bitter) infusions. (*See* INDIGESTION.) All food of flatulent nature must be avoided, regular exercise taken, and warm, cordial aperients every now and then administered, such as this:

No. 106. Of Tincture of senna . . . 1 oz.
Wine of aloes . . . . . 2 oz.
Peppermint water . . . 3 oz.
Syrup of ginger . . . . ½ oz.

Three table-spoonfuls occasionally, when costive.

When the air has collected, or is situate in the cavity of the belly, having escaped from the bowels, some recommend tapping the belly with a small pipe, &c., called a trocar.

DROPSY

Is mostly a sequel, sign, or symptom of another disease, but the imprisoned fluid is often a cause of various symptoms which carry with them imminent danger to life.

Dropsies have been divided into active and passive; into dropsy in the head, heart, or chest, kidneys, belly, and cellular membrane.

Dropsy first showing itself in the ankles is usually a dropsy originating in some heart affection. When, in addition to the swelling in the ankles, a puffiness is observed in the face and eyelids, it is probably dropsy from disease of the kidney. When the water first shows itself in the belly, it is a liver dropsy.

DROPSY OF THE CELLULAR MEMBRANE, OR ANASARCA.

This kind shows itself at first with a swelling of the feet and ankles towards evening, which disappears in the morning, after a night's recumbent position.

The swelling is usually soft and inelastic, retaining for some time the pit from the pressure of the finger. By degrees the swelling ascends, and occupies the thighs and trunk of the body, and continues to increase till the face *and eyelids seem* to be bloated. There is a hard, tense, *brawny kind of* swelling: here the fluid would not seem to

have broken down the cells. When an increase of the fluid at length breaks them down, then the swelling becomes soft, doughy, pitting on pressure, with a shining glazed skin. After a time, difficulty of breathing, with cough and expectoration of a thin, watery fluid, are added. The urine is high-coloured and scanty in quantity; costiveness; thirst; yellow skin; emaciation: lastly, heaviness, stupor, and slow fever.

The anasarca from cold comes on suddenly, and is of the hard kind of swelling: in that from rheumatism and disease of the heart, there are palpitation and difficulty of breathing, increased on exertion—walking up ascents; short, dry cough; the patient can draw in a full breath easily; eyelids and cheeks swollen in the morning; pulse quick and weak or full and soft; the urine does not coagulate by acid nor by heat; nights restless.

Anasarca from disease of the heart is characterized by symptoms of diseased heart.

The dropsy from kidney disease: besides the usual symptoms, the skin is singularly dry and pale; the urine will coagulate by acids or heat, and may be copious or scanty; its specific gravity diminishes, and there is often a deficiency of urea in it. There may have been pain in the region of the kidney, felt for some time before the dropsy came on, or some irritation in the bladder is seen in some cases.

The brain soon becomes oppressed in these cases of renal dropsy, and drowsiness, stupor, and coma are not unusual.

Anasarca may arise from a stoppage of the menses, or after scarlet fever.

The dropsy that supervenes upon scarlet fever, generally begins from the fourteenth to the eighteenth day after the scarlet fever commenced, and it is sometimes formidable.

Causes of Anasarca.—All causes of debility form the tendency. Exciting causes are certain diseases, producing an obstruction to the free circulation of the blood; such as those of the heart, of the lungs, and of the kidneys. Suppression of accustomed discharges or eruptions, or the sudden disappearance of the latter, intemperance in drink, pressure on the veins in several parts.

We may take a favourable view of the result, if the

cause of the disease admit of easy removal, if the strength is not impaired, if the appetite be good.

Treatment of Anasarca.—We must try to remove the causes, to evacuate the fluid, and to strengthen the habit.

To evacuate the fluid, active purgatives, diuretics or diaphoretics (sweat producing) remedies are employed.

Active purgatives answer very well for the first, second, or third times, but by repetition they lose their power; then larger doses are given; yet the stools are still incomplete and painful. A more powerful dose is given, and then pain is felt, and an inflammatory state of the bowels is brought on.

Our best plan is to alternate purgatives with diuretics or diaphoretics; never to combine them in the same prescription. Elaterium, gamboge, jalap, colocynth, croton oil, supertartrate of potash may be given.

No. 107. Of Elaterium extract . . . . . 2 grs.
Sugar . . . . . 1 dr.

Rub well, mix, and divide into eight powders. Give one every fifteen or twenty minutes, till free watery motions are produced. But this elaterium excites so distressing a sickness, that few can long persevere. Cream of tartar is much praised, and Dr. Eberle especially recommends the following combination—

No. 108. Of Cream of tartar . . . . . 1½ oz.
Sulphate of potash . . . . . ½ oz.
Powder of dried squills . . 2 drs.
Tartar emetic . . . . . 2 grs.
Mix. A teaspoonful of this four or five times daily.

Or this imperial drink—

No. 109. Of Cream of tartar . . . . ½ oz. to 1 oz.
Sugar . . . . . ¼ lb.
Recent lemon peel . . . 3 drs.
Boiling water . . . . . 3 pints.
Mix.

Diuretics are, perhaps, the most efficacious, where there is no disease of the kidney.

No 110. Of Blue pill . . . . . 2 grs.
Compound squill pill . . . 3 grs.

Make a pill, to be taken every night, but watch the gums;

and do not salivate. The squill will disagree with many, even in very small quantity.

No. 111. Of Acetate of potash . . . . . ½ oz.
Spirits of sweet nitre . . . . ½ oz.
Decoction of fresh broom . . 8 oz.
Two tablespoonfuls thrice daily.

The foxglove is often given, but it should only be given by a medical man.

Where remedies cannot be borne, when taken into the stomach, we may try rubbing in the following—

No. 112. Of Tincture of squills, Foxglove, Colchicum seeds } of each ½ oz.
Camphorated oil . . . . . 1½ oz.

This is to be rubbed in for from ten to twenty minutes by means of flannel.

Scarifications, or what is called acupuncture, that is, introducing a needle's point, by a rotatory motion into the skin, at various points. A small bead of fluid will appear, and a good deal of the fluid will drain away in this manner with time.

If the fluid is discharged, give tonics, good food, good air and exercise; so as to strengthen the patient as much as possible.

Dropsy of the Belly.

Here the belly swells progressively; the fluid can be felt by the finger.

The general symptoms which arise are those caused by the pressure of the fluid; difficulty of breathing; full and suffused face and eyes; thirst; a dry skin; scanty urine; and torpid bowels.

Causes.—Disease of the liver, spleen, or any tumour pressing on the veins.

Treatment.—If there be pain on pressing the belly, leeches should be applied, and then mercury, so as to affect the gums slightly.

The list of remedies are the same as for anasarca—purgatives, diuretics, &c., &c.; but when all have been tried, and the distension is very great, tapping must be *advised.*

Dropsy of the Chest

Comes on gradually. At length there is felt a sense of oppression or weight at the lower part of the chest bone, with slight difficulty of breathing, when at rest and in an erect posture. The sufferer tries to lie down, finds he can not, from a feeling of suffocation which ensues; his pillow must raise the head very high or a feeling of suffocation will follow. All bodily exertions aggravate; the sleep is dreamy, and the patient awakes in terror; the pulse is irregular, perhaps intermits, and is hard to the finger; thirst is urgent, and the urine scanty and high-coloured.

As the disease advances, the lips become of a dark or purple red, the face pale or livid, and the difficulty of breathing increases; the legs and hands cold. If the fluid is only on one side of the chest, he can lie down only on that side.

Treatment.—A favourable result must depend on the accompanying disease. We must first reduce any inflammatory tendency, if any exist, by cupping, leeches, tartar emetic embrocation to produce an eruption.

To get rid of the fluid, the purgatives, as elaterium, scammony, &c.; the diuretics of acetate of potash, sweet spirits of nitre, infusion of digitalis.

Diuretic Mixture.

No. 113.	Of Acetate of potash . . .	30 grs.
	Sweet spirits of nitre . .	1 dr.
	Infusion of foxglove . .	½ oz.
	Peppermint water . . .	1 oz.

Three times a-day. But the foxglove must be watched; and if the pulse suddenly lower, or a feeling of lowness or faintness come on, the foxglove must be discontinued.

The writer has been obliged to give blue pill, or calomel; three grains of the former, and one of the calomel, night and morning; to very slightly touch the gums. As soon as this happens, the urine is increased by the diuretic mixture directly.

The Kidney, or Renal Dropsy.

To the general symptoms of dropsy already detailed, *there are some* symptoms added, showing the complica-

tion of the kidney as a cause—pain in back—instead of the dark red lips and bluish countenance, we see a dingy sallowness of skin, and the urine is coagulable by heat, and it is of lower specific gravity than is natural. The lower, the greater danger; and a density of 1018 to 1010 betokens great danger. The specific gravity is ascertained by a peculiar instrument called a hydrometer.

Treatment.—If there is pain in back, cup; but do not take away much blood. Here diuretics must not be given. Purgatives and sweating medicines.

Dr. Osborne says: when a patient was under his care with general swelling, (œdema,) coagulable urine and dry skin, I directed him to keep his bed. A purgative was first given—the senna mixture in preference to others—then foot-baths, hip-baths, or general baths were ordered; the last either of water or of vapour. At night, eight grains of James's powder, with four of Dover's powder were given.

The usual drink was barley water; but if there were any stupor or headache, the Dover's powder was omitted.

While in the bath, two drachms of ammoniated tincture of guaiacum were given.

If the baths were followed by cold feet and legs, they were discontinued. Then give—

No. 114. Of Carbonate of ammonia . . 30 grs.
Camphor mixture . . . . 6 oz.

One ounce to be taken every two or three hours. Warm bags during the day.

As soon as perspiration sets in, amendment or recovery may be hoped for. During convalescence: bandages and exercise. Nutritious diet.

Water in the head. *See* DISEASES OF CHILDREN.
Scrofula. *See* ditto.

SKIN DISEASES.

THE CHICKEN POX.—VARICELLA.

Slight fever for twenty-four hours, then reddish pimples, which on second day contain a colourless fluid—vesicles they are called. On the third day the colourless fluid becomes *yellowish*; soon after they break, or are *accidentally broken*, and a thin scab is formed.

Generally before the fifth day the whole eruption disappears.

Treatment.—Seldom necessary. Gentle aperients; saline draughts if there is fever.

False Measles—Rose Rash—Roseola.

Slight febrile symptoms, then patches of different form and size of a deep rose colour, which disappear in from two to seven days.

Causes.—Teething; irritation of stomach or bowels. It is sometimes epidemic.

Treatment.—Salines; aperients; a warm bath or two.

Atonic Ulcer, or Rupia.

This disorder is observed in persons of unhealthy habit, who are what are called cachectic—that is, in a bad state of health from previous disease, or exposure to unwholesome influences.

The eruption consists of round, flat vesicles, about as large as a shilling, which are filled with a serous fluid.

This fluid changes into pus, or yellow matter. The vesicles shrink, and thick brown crusts form, beneath which crusts the skin ulcerates. The scabs fall off; the ulcers heal more or less quickly. The eruption affects chiefly the legs.

The duration of the disease is from a few weeks to several months.

Causes.—Everything which produces an unhealthy habit of body. One species sometimes terminates fatally; it occurs in infants.

Treatment.—Our attention must be directed to the general state of the body, and we must try to produce healthy blood by regulating the secretions; giving tonics, as bark, steel, wine, &c., and stimulants. Locally, by warm baths, or by alkaline baths. To the ulcers, lunar caustic, stimulating ointments, &c.

Tetter, or Herpes.

This is a non-contagious affection of the skin, with an eruption of globular vesicles, situated upon inflamed patches of skin, of an irregular form, and of small extent.

There are usually no signs of constitutional disturbance, and the disease lasts for two or three weeks.

Each vesicle continues for about ten days, and terminates by its contents being absorbed, or by a drying up of the contents, or else it breaks, leaving a thin brown scab, which falls after some time.

The different kinds are classified into one, which is irregular in form and distribution; and another, which shows a circular arrangement of the clusters.

A sense of heat, tingling, or smarting precedes; then red points are to be seen: the redness increases in the course of a day, and then little bladders, filled with a transparent serous fluid succeed. On the third day, the fluid becomes turbid, and then the vesicles shrink; when, at last, thin brown scabs form, to be thrown off in scales by the twelfth day. The redness and discoloration of the skin slowly disappear. Sometimes ulcers are left, but they are superficial. Languor, thirst, and loss of appetite may attend.

Herpes may be met with on the lips, the eyelids, nose or ear, and on the foreskin.

Circular kinds of patches are seen of various sizes, seldom exceeding the size of the palm of the hand. They are of a vivid red colour, and the numerous vesicles run together. These patches run through their course in about ten days, but they may appear in succession, become chronic, and continue for weeks. The face, neck, chest, and arms are the chosen site.

In another form the patches are circular or oval, vividly red, but becoming pale in their centres, the vesicles being developed on the outer margins of the patches, the size of which increases by an extension of the circumference. The vesicles go through similar changes with those above described, and fall off in nine or ten days, leaving a red skin, or they may form and fall off in dry scales.

This eruption is only dangerous when it is the sign of some inward complaint, or when it occurs in old people; for *gangrene is then apt* to take place. It has been of *service in some constitutions*, by preventing an attack of

consumption. In such cases beware of what is called driving it in by cold applications, astringents. Persons so situate are known by being of delicate habit, by marks of debility, and susceptibility for disease.

Treatment.—Gentle laxatives, sweating medicines, and diluents must be given; but if febrile symptoms run high, bleeding is necessary.

A simple ointment to the patches, and when the vesicles have burst, sprinkle with starch powder. When the eruption is acting as a counter-irritant, we should follow the indication by keeping up an irritation on the skin after the eruption has disappeared.

If there is debility, tonic infusions of gentian, calumba, &c., with carbonate of soda or potash, twenty grains each, thrice daily, in one ounce of infusion. The acetate of potash, twenty grains, is useful, instead of the carbonate, or they may be combined.

For this herpes on the lip, this ointment may be used:

No. 115. Ointment of elder flowers . . 1 oz.
Liquor of sugar of lead . . 1 drachm.
Mix.

When the eruption becomes chronic, the following ointment should be tried, and if it fail, then a blister applied:

No. 116. Of Sulphuret of lime . . . 60 grs.
Camphor in powder . . . 15 grs.
Hog's lard . . . . . 1 oz.

Humid Scall, or Eczema.

Non-contagious; minute vesicles in great numbers, often running together; the inflammation of irregular form, and mostly spreading over a considerable surface. The little bladders are often so close to each other, that one great vesicle is formed.

The vesicles terminate by drying up, or by rupture and formation of scales, and the acute kind lasts from a week to a month.

Eczema is acute or chronic.

Causes.—Spring and autumn, and the female sex, predispose. Exposure to intense heat, irritation of the skin

by a blister, friction with mercury, the handling of dry powders, as flour, sugar, &c.

This may be mistaken for itch.

Treatment.—Aperients; cooling drinks; simple diet; warm baths, and warm dressing. According to the degree of inflammation or fever, our remedies should be proportioned.

A decoction of goose-grass, the galium aparine, has been much praised; one ounce to a pint and a half of water, boiled to a pint. Drink half a pint to a pint daily. Mr. Hooper, of Pall Mall, prepares an inspissated juice.

The distressing itching or smarting is best relieved by a lotion of three grains of cyanide of potash to one ounce of water. Sulphur and greasy applications are to be avoided.

The Chronic Eczema

Often follows the acute, and is a very intractable disorder. The skin becomes highly inflamed, and is marked by fissures at the joints. In some cases so much acrid discharge exudes as to cause the clothes to stick to the skin; in others there is a surface, covered with shining crusts, and the itching is intense. Grocers, and other tradesmen who handle irritating powders, suffer from this scall—forming grocers' itch on the backs of the hands.

Eczema may be transmitted from one person to another, by means of the discharge from the vesicles—but it is still not contagious—the discharge acting merely as a local irritant.

Treatment.—As eczema acts very often as a safety-valve to the health of the patient—we must check the discharge very cautiously—and indeed, not before a counter-irritation on the skin, elsewhere, or in the bowels, have been established.

The eruption is difficult of cure when there is a co-existent state of disease within the body—because we must first remove the constitutional affection, when the eczema would soon disappear almost without medicines, and, as it were, of itself.

The redder *the skin*, the more we should lean to a *lowering plan*—*active* aperients—then carbonate of soda

or potash, three times a day—vapour baths, vapour douche—sulphureous baths—three ounces of sulphuret of potash in enough water for a bath.

The itching must be allayed, for it prevents sleep.

No. 117. Of Hydrocyanic acid . . ¼ to ½ oz.
Alcohol . . . . . ½ oz.
Distilled water . . . 7½ oz.
Sugar of lead . . . 16 grs. Mix.

Or this ointment:

No. 118. Of Cyanide of potash . . 12 grs.
Oil of almonds . . . ¼ oz.
Ointment of white wax . 2 oz. Mix.

The author's plan of treatment is, to begin with calomel and colocynth pills—two at night—and next morning the salts and senna mixture, or a seidlitz powder. Then he gives—

No. 119. Of Acetate of potash . . 20 to 30 grs.
Syrup . . . . . 1 or 2 drachms.
Water, or infusion of gentian . . . 1 oz.

Thrice daily, and long-continued. It soon alters the urine for the better—increasing its quantity.

The itching is to be allayed as above directed.

To show what benefit is derived from aperients, the author will mention a case which lately occurred in France. A Frenchwoman had suffered annually from eczema, and had sometimes been confined to bed for six or seven weeks at a time. Her doctor, a fellow countryman, who seldom or never ordered medicines in any case, told her to apply poultices, to take no medicine, and to wait for warm weather. The poultices increased the itching, and, dissatisfied, she consulted the writer, who prescribed.

By mistake the druggist ordered the calomel &c. pill to be taken every four hours, and the aperient mixture between the doses. For some twenty-four or thirty hours the bowels were in incessant action, and inflammation might have been induced.

The writer visited her forty-eight hours after his prescription: he found that the redness of the skin had quite *disappeared,* and the itching was gone. In three weeks a *cure was* nearly complete.

Where we have reason to suspect internal disease, the eruption must not be dried up without giving repeated purgatives, and using counter-irritants—as croton oil liniment, and some cases it would be better not to attempt to cure.

Miliary Eruptions—Sudamina.

Round, prominent vesicles, about equal in size to millet seeds—transparent at first, but in twenty or twenty-four hours, opaque, resembling pearls scattered on the skin. There is a profuse sweat, of a sour, rank odour. They continue three or four days—shrivel, and form thin scabs—some fever. They are always associated with excessive heat of the skin, and often with profuse perspiration; and hence they are occasionally met with in measles, scarlet fever, and small-pox. Used to be of frequent occurrence in former times.

Causes.—Anything debilitating—excessive discharges—irritation in stomach and bowels.

Great dejection of mind and prostration sometimes attend; and little dark spots, like flea-bites, are interspersed in bad cases—vomiting, difficult respiration, convulsions, intermitting pulse, and dropsical swellings, accompany fatal cases.

Treatment.—Diminish immoderate heat and sweating—by cold cautiously applied, by gentle aperients, and by the mineral acids; the dilute sulphuric acid, ten to fifteen drops in infusion of roses, or with quinine, one grain.

Support the strength by ammonia—bark and wine—and wherever restlessness require it, give opium. If the eruption should unexpectedly disappear, and inward suffering—the warm bath, musk, camphor, opium, and blisters.

Running, or Crusted Tetter or Scall.—Impetigo.

Clusters of small pustules (vesicles with yellow fluid in them) raised a little above the skin; they burst in two or three days, and the discharge hardens into thick yellow, brownish-greyish transparent crusts. The scabs rest on an inflamed base, of irregular shape, and are moistened by the discharge. Successive crops often appear; and the disease lasts *from three or four weeks to as many months, or years even.*

Causes.—Spring and autumn predispose; so does childhood or the scrofulous temperament. Errors in diet, impure air, want of cleanliness, &c. Not contagious. It is unattended with danger.

Treatment.—If high excitement be present, a full pulse, headache, and fever, then bloodletting, or leeches near the seat of the disease. Low diet; salines. But, in less severe forms, tepid baths, vapour-douche, with tepid aperients.

The writer would treat this just as he would treat eczema.

Here, the decoction of the galium aparine, or goose grass, must be tried. *See* ECZEMA.

For the troublesome itching:

No. 119. Of Hydrocyanic acid, dilute . . ½ oz.
Alcohol . . . . . ½ oz.
Rose water . . . . . 7 oz.

Make a lotion.

Acetate of lead: fifteen grains may be added.

In chronic cases, alkaline lotions to skin, tepid baths, the dilute acids, or lunar caustic, may be applied; stimulants.

When the head is attacked, crop or shave off hair; then vapour douche, and water dressing.

PAPULOUS SCALL.—ECTHYMA.

An eruption in distinct inflamed circumscribed spots, which become of a considerable size; pustules form on the centre. In two or three days these dry up, leaving thick scabs behind them, and, when they fall off, the skin underneath is purple. In bad cases there are left unhealthy ulcers. Pain and slight fever may accompany. Grocers, bricklayers, &c., are subject to this.

Treatment.—Gentle aperients, wholesome food, alkaline baths, sea water baths, caustic to ulcers, oxyde of zinc ointment, tonics, quinine with sulphuric acid, infusion of gentian with carbonate or acetate of potass.

LICHEN, OR DRY PIMPLES.

An eruption of small, hard pimples; sometimes of the colour of the skin, sometimes red, arranged in patches or

clusters, with severe itching. It is usually a chronic disorder.

It terminates in small scabs falling off.

The lichen strophulus forms the red gum, white gum, or tooth-rash of children; but lichen attacks grown-up persons. The causes are abuse of spirits, handling dry powders, grief, disorder of stomach.

Not contagious; not dangerous. But difficult to cure.

Treatment.—According to symptoms. Lower the system if it is too high, in the usual way.

Chronic cases require stimulants. Ointments of biniodide of mercury one drachm to one ounce of lard.

Sulphur and iodine vapour.

The prickly heat of tropical climates is a species of lichen. The pricking, itching, and tingling, are almost terrible to bear; though it is better to bear them. No remedies have availed much. At Sierra Leone the negroes rub the juice of the lime upon the skin; of little use. Cold sluicings, useless. Light clothes, open bowels, avoiding exercise in open day, strict temperance in eating and drinking, with a determined resolution to resist the first attacks with stoical apathy, form the best and only mode of combating this troublesome foe.

In all kinds of lichen a moderate cooling regimen should be observed, and all stimulants avoided. Treat and lower according to state and symptoms. A weak lotion of acetic acid and water, or vinegar and water, for the itching; avoid warm baths. When chronic, this ointment—

No. 120. Of Calomel . . . . . 1 dr.
Powdered camphor . . . 20 grs.
Lard . . . . . 1 oz.

Mix.

Prurigo,

I a chronic and non-contagious eruption, characterised by pimples larger than those of lichen, not differing in colour from the integument, and attended with an excessive and burning itching—when scratched, the pimples become covered with small black scabs—and when the pimples decline, they leave yellowish stains behind them.

The *itching is tormenting*, and has been compared to *burning fires, b—eing* pierced all over with halberds—and

Abbé Morellet, when writing to Alibert, expressed himself as writhing on the "gril de St. Laurent."

Treatment.—For this obstinate disease, daily alkaline or sulphur baths, of seventy degrees of heat—or, if these irritate, a simple soap-bath.

Mr. E. Wilson used this liniment with benefit—

No. 121. Of Croton oil . . . . ½ dr. to 1 dr.
Oil of almonds . . 1 oz.

Several topical remedies against the itching should be at hand in the night.

Mons. Gibert's Ointment.

No. 122. Of Hydrate of lime . . . . 2 drs.
Subcarbonate of soda } of each ½ dr.
Laudanum . . . }
Lard . . . . . 1 oz.

Mix.

Mons. Alibert's Ointment.

No. 123. Of Laudanum . . } of each ½ dr.
Sublimed sulphur }
Oxyde of zinc . . . . . 1 dr.
Oil of almonds . . . . . 1 oz.
Lard . . . . . 3 oz.

Mix.

Laxative medicines—diuretics—acid tonics, &c., with light cooling diet—avoiding all stimulating food and drinks.

This disease is often accompanied by lice, when a wash of bichloride of mercury must be used.

Leprosy, or Lepra.

A non-contagious, chronic inflammation of the skin, (dermis,) and the eruption consists of raised and circular patches, which are speedily covered by thin, semi-transparent scales of white upper or scarf-skin. The patches are prominent round their circumference, and depressed in their centre, and they increase by an extension of the circumference, while the centre returns to the natural state.

The scabs are thrown off, and replaced by successive formations.

Causes.—Autumnal season—male sex predispose; while

irritation of the skin—strong mental emotions—salt meat—all debilitants are exciting causes.

Treatment.—Cure very difficult—quietude—a cooling, unexciting regimen and ablution are chiefly to be relied on.

The writer has met with success from giving the acetate of potass, and he would try the goose grass decoction—twenty-five or thirty grains in three or four ounces of the decoction—thrice a day.

Mercury and iodine combined, in form of biniodide of mercury, from one-sixth to one-fourth of a grain, seem to exert almost a specific influence over the morbid state of the skin—according to the late Dr. A. T. Thomson.

He also gave the iodide of arsenic, one-tenth of a grain—gradually increased to one-third of a grain. But this remedy requires close watching—so that when heat of mouth and gullet, anxiety at the pit of the stomach, or pain and griping are complained of, discontinue it. Quickness and hardness of the pulse, with slight puffiness of the lower eyelids, show that arsenic is beginning to act, no longer as a remedy, but as a poison.

Mr. Donovan gives thirty drops of a liquor of hydriodate of arsenic and of mercury in tincture of ginger—but headache, nausea, and salivation may arise, when taking this medicine.

Tar has been recommended—and Mons. Lemery orders an ointment which cured eight patients out of fourteen, in from five weeks to three months.

No. 124. Of Naphthaline . . . 2 to 4 parts.
Lard . . . . . 30 parts.

Mix—apply on folds of linen, night and morning.

Dry Tetter—Psoriasis.

This is a chronic, non-contagious inflammation of the skin Patches are seen of irregular size and form, covered by thin irregular, whitish scales of dried scarf-skin. The patches are raised above the level of the skin—flat upon their surface, or somewhat more raised at their centres than at their circumferences—and deep chaps or fissures intersect here and there. Spring and autumn are the seasons favourable to this complaint. Bakers and washerwomen

suffer from it—forming what is called baker's-itch—washer-woman's-itch.

In some of the kinds, there is a troublesome itching at night.

Treatment.—This is a troublesome, intractable, and, in the inveterate form, an incurable disease.

The treatment is much the same as that applicable to psoriasis. Various remedies have been extolled as almost specifics—and just now the goose grass or galium aparine is loudly talked of. *See* ECZEMA and PSORIASIS.

DANDRIFF, OR PITYRIASIS.

This consists of a chronic superficial inflammation of the skin, with desquamation to a great extent—the scales being constantly renewed. All parts may be attacked—but the head most frequently. Itching, at times slight; at others severe. It is caused by irritation of the skin by heat—a strong sun, or by chemical or mechanical irritants.

The abundant branny scales on a number of small circular patches of a red, yellow, or black colour, distinguish this from all diseases of the skin.

Treatment.—No danger to be feared—but it is usually difficult to cure.

Cleanliness—tepid baths—tonic medicines—blue pills, the grey powder, as an alterative—three grains every night of either are sometimes necessary. The ointment of nitrate of mercury should be tried. To allay the itching, the cyanide of potash, or the hydrocyanic acid as before recommended.

ITCH, OR SCABIES.

This eruption is usually met with between the fingers, or on the wrists, the inside of joints, and at the bends of the joints; it is characterized by scaliness of the scarf-skin, by vesicles, or by what are called pustules—little bladders filled with a yellow fluid called pus. The itching *is very great,* and it is increased by warmth, by stimulating food, or drinks. The scaliness is said to be owing to *the burrowing* of a little creature, or animalcule, called the

itch insect, which burrows beneath the outer skin, and excites irritation.

The vesicles are few and scattered, bearing no proportion to the number or site of the animalcules; they are more or less conical or rounded, according to their situation, and the fluid in them differs in colour and consistence. If we look at an early vesicle, a spot may be observed on its surface—here the insect enters; and from this spot a white line, straight or curved, may be traced, of varying length, up to five or six lines. At the end of this line, which is the burrow of the acarus, the minute insect is to be found. Yet the acarus is never situated within the vesicle nor within the pustule, and there is no communication between the vesicle and the burrow. The eruption and the itching are in proportion to the vigour of habit in the affected person; the more debilitated the person, the slower the progress of the eruption, and the less violent the itching.

It is of importance to know, when a case of itch is before us,—for eczema, prurigo, and lichen may simulate it rather closely. The itch is known, firstly, by a peculiar scaliness and undermined state of the outer or scarf-skin. Secondly, by the conical vesicles, with needle-shaped and transparent points; and, thirdly and principally, by the presence of the itch insect, which may be extracted from its retreat by means of a sharp instrument in an experienced hand.

Itch never attacks the face.

The period at which the vesicles appear, after exposure to contagion, varies with the state of health and the age of the subject, and the season of the year. In strong, healthy children, the vesicles have appeared in two days after contact, the ordinary period being four or five days, which in weakly subjects may be further postponed. In adults, the period is a week or ten days; or, in winter, a fortnight or three weeks; in old persons the period is still longer.

The period of duration of the itch is usually a week or ten days, but it may continue for months.

Treatment.—To effect the cure in the shortest possible time, the skin must be prepared by a thorough ablution, with a warm solution of sub-carbonate of potash, containing about *half-a-pound* of alkaline salt to a gallon of water. *The best preparation* is the compound sulphur ointment.

of which a grown-up person should rub well four ounces into the skin before the fire, and into the affected parts—especially morning and evening—for two days.

A child would require half the above-stated quantity.

On the morning of the third day, a warm bath—and wash the skin thoroughly with plenty of soap, when the cure will be completed.

The compound sulphur ointment may excite much irritation—then, if time is not of importance, recovery may be effected in a week, by mixing one ounce of sub-carbonate of potash with a pound of the simple sulphur ointment.

Some soapy compounds have been recommended.—

No. 125. Of sub-carbonate of potash . 2 drachms.
Water . . . . . 1 oz.
Olive oil . . . . . ½ oz.
Camphor . . . . . 2 drachms.
Sublimed sulphur . . . 5 oz. Mix.

No. 126. Of Sublimed sulphur,
White soap, of each half-a-pound.

These do not soil the clothes.

In young children and in families, when the odour of sulphur is particularly objected to, Mr. E. Wilson has found the following effectual in eradicating the disease—one drachm of camphor, dissolved in one ounce of oil.

The clothes, bedclothes, &c., should be disinfected by exposure to the fumes of sulphureous acid gas, or they should be destroyed.

Fish Skin, or Ichthyosis.

A number of small, hard, thick, and dry brown scales, overlapping each other like the scales of a fish, form on the palms of the hands, soles of the feet, the face, eyelids, limbs, and around the joints. There is no accompanying inflammation, pain, nor itching—but there is a disagreeable odour.

Causes.—Obscure—hereditary—the person is generally born, suffering from it. When hereditary it is incurable, and always very obstinate of cure. No danger to life.

Treatment.—Vapour Baths—strong stimulating applications to the skin; blisters, caustics, the vapours of sulphur and iodine.

Internally, arsenic or the iodide of arsenic must be given. (*See* LEPROSY.)

Warm alkaline baths are essential—containing the sub-carbonate of soda—which dissolves the albumen, and softens the hardened crusts.

CORNS.

A corn is an increased thickness of the outer or scarf-skin, caused by undue pressure. Corns may be divided into laminated, fibrous, and soft corns.

The laminated corn arises from continued pressure producing a congested state of the skin; in consequence of which the part of the skin called papillæ elongates, the papillæ in the centre, where there is the greatest pressure, being longest of all.

Fibrous corns are those on the summits of which there is an appearance resembling the ends of fibres, and if the top be cut off horizontally, these vertical fibres seem as though they were cut across, giving rise to the belief of roots or cores to the corn.

These so-called roots are merely the centre papillæ, which are elongated, and by the pressure on the centre of the corn, are bent and doubled down.

Soft corns are very painful and annoying, and more so than the two preceding kinds. They are seen between the toes; are always of small size; are not convex; and from being constantly immersed in the perspiratory secretion of the part, they are soft.

Causes—Are pressure and friction, from boots being too small or too large. In the two first kinds, the pressure is directly vertical; in soft corns it is the pressure of the toes against each other.

Corns may be seen on the feet, on the hands, or on the knees.

Treatment.—Curative or palliative. The first, says Mr. Wilson, in his excellent account, consists in the removal of the cause, the other in the removal, from time to time, of portions of the thickened scarf-skin.

Rest—avoidance of tight boots.

Plasters spread upon amadou, or on thick leather, and cut out in the centre, so as to remove pressure. One bit *of plaster should be* placed over another, or with holes

of proper size cut in their centres, until enough are placed to prevent pressure.

The palliative treatment comprises the removal of the corns, either by scraping or filing, after the corns have been well soaked and softened in an alkaline solution, or by cutting in the hard or soft state.

A certain cure for corns has been proposed, and it is thus composed:—Of tincture of iodine, half an ounce; iodide of iron, twelve grains; chloride of antimony, one and a half ounce. Mix.

The chiropodists remove the central part of the corn—leaving a raised line of circumference as a circular cushion of protection.

Caustic is often applied—or by plasters containing the solvents of albumen, soda and potass.

Dr. F. J. Brown has proposed an effectual method of getting rid of a corn by enucleating it—which he did on his own person.—He says, the corn is seated in a cup-like depression of the true skin—as is a stone in a brooch. His method is to pass a penknife vertically around the corn, for the full depth of the indurated cuticle, in the situation of the marginal line.—The true skin is not wounded nor any blood spilt—and the corn may be turned out bodily—leaving the true skin perfect.—The depression soon fills up.—*Lancet*, April 15, 1854.

Entire removal is the only cure for the soft corn—and their formation may be prevented, and when present they may be rendered bearable, by daily ablution with soap, and by placing a piece of cotton wool between the toes after each ablution.

Many advise bathing or washing the feet with spirits and water. Corns may produce bunions—or when seated on joints, they often excite inflammation about the articulations.

Warts

Depend upon the state of the papillæ of the true skin. They may be developed at any period of life, and arise without any apparent cause, to continue for the rest of life, or to disappear unexpectedly—most frequent in children.

Caustic, or nitric, or strong acetic acid, removes them, *or any strong* stimulant. Electricity disperses them—*sparks must be* sent through them for five minutes daily,

and they do not reappear as they do when removed by other means. A writer, in 1844, advised, in the *Medical Times*, that a strong decoction of galls be applied.—In a few days or a week this effectually removes them.

Purpura—Land and Sea Scurvy.

This is known by the effusion of blood under the skin and into other parts—forming patches of various size, in considerable numbers. It is divided into three kinds—the simple—the hæmorrhagic, and the sea-scurvy.

The simple begins with uneasiness or slight giddiness, then an eruption of small round patches, of a dark red colour, mainly on the thighs and legs—but also in any part of the body.

After a few days the first patches begin to fade, and new ones appear—the general health is not disturbed, and the disease may last from three or four weeks to as many years.

The causes are obscure.

Treatment.—Tonics, combined with a nourishing diet—mild aperients now and then.—The object is to restore tone to the system.

The hæmorrhagic form is marked by weariness, weakness, inaptitude for any exertion, bodily or mental, pains in the limbs, and patches like the above described—only larger—sometimes large vesicles filled with liquid blood—the gums are swollen and spongy—blood is discharged from the gums and other mucous membranes—the legs are stiff from the effusion of blood between the muscles—pulse feeble; sometimes full and hard.

A relaxed state is at the bottom of this disorder—and the capillary vessels are weakened, while the blood itself is altered from its usual healthy state—and its consistency is diminished.

A moist atmosphere—a scanty, improper diet.—Long continued difficulty of breathing, as in chronic bronchitis, will produce such a state.

Treatment.—If pulse full and hard, a small bleeding to eight or ten ounces—then tonics, a generous, nutritious, and mixed diet.

If debility be urgent, tonics and stimulants—turpentine

will often do good. A tablespoonful of lemon juice three or four times a-day.—Potatoes to be eaten.

Sea Scurvy.

Heaviness, weariness, dejection of spirits, anxiety—oppression at the pit of the stomach—are followed by sallow and bloated countenance—hurried respiration—looseness of teeth, spongy, bleeding gums—offensive breath—old wounds, long since healed, break out afresh—severe wandering pains are felt, at night particularly—the skin is dry—urine small in quantity, turning blue vegetable infusions of a green colour—the pulse is small, frequent, and at last intermitting.—The intellect remains clear.

In the last stage, the joints swell and become stiff; the tendons of the legs are rigid and contracted—general emaciation ensues, and discharges of blood from many parts, and fœtid evacuations, terminate the scene of suffering.

Although the terms, sea and land scurvy, are used by many persons, yet there is no difference in the diseases, except as to degree.

Causes.—Fatigue, hardship, and whatever debilitates, engender a tendency to scurvy. Exciting causes are improper diet, especially salt meat and biscuits; a deficiency of vegetable food; and of those articles of food which contain vegetable acids.

The patient will recover if there is little reduction of strength, and there has been no previous attack of scurvy; if the skin be moist; if fleabite-looking spots appear, when they are of a red and not of a dark colour. But great prostration; extreme oppression; red eyes and flushed face; a rapid and weak pulse; profuse hæmorrhages; spots of a dark livid colour; fœtid and involuntary evacuations; all denote an unfavourable result.

Treatment.—Medicines are little wanted, when compared with diet. Vegetable food; the orange, lime, and lemon, or the citric acid as we use it in effervescing draughts. It is very convenient to carry, and as fresh fruit is often not to be got, the citric acid removes the difficulty.

If there is great prostration, tonics and stimulants; fer-

mented liquors, ale, cyder, spruce beer, infusion of malt, fermenting wines; the subacid fruits, sugar, molasses, potatoes.

Aperients occasionally. Cream of tartar, or sulphates of magnesia or soda; infusion of tamarinds.

For ulcerations of the gums, astringent gargles of alum; sulphate of zinc; decoction of bark, &c.; honey of borax painted on the gums is serviceable.

Acute pains are relieved by opium; and the oppression at the chest, and difficulty of breathing, by stimulants,—the nitric and sulphuric ether with camphor; for contractions and stiffness of muscles of the legs, fomentations, friction, &c.

The great point is precaution; by a due admixture of vegetables with a due proportion of vegetable acids,—lemon juice or citric acid. The potato is one of the best vegetables. Potatoes, raw and sliced, are excellent antiscorbutics. They should be peeled and sliced, like cucumbers, and eaten with a little vinegar. Pumpkins and plantains are useful; but not so good as potatoes. Potatoes, it is said, are equally good boiled as raw; or, at all events, boiled potatoes will act as preventives.

The cold bath; friction with flesh gloves; plenty of good air; exercise; and good food will fortify against the attacks of purpura or scurvy.

Itching, or Pruritus.

This itching is excited by the most trivial causes, and may continue for hours, depriving the patient of comfort or rest. As soon as dinner has been finished, or any stimulus has been taken, the tormenting itching begins. The warmth of the bed brings it on—and the morning is the only time, when the itching ceases to annoy.

Scratching does not relieve, but augments the evil—but if the mind be engrossed with any agreeable occupation, and is diverted from dwelling on the itching, then the morbid sensation is for the time inactive—it rages again, the moment the mind reverts to the itching. The attacks of pruritus are variable as to duration: they sometimes continue for hours without any amendment—at others, their periods are shorter. The disease may last for months, *or even for several years.*

It is the sign and consequence of some irritation in the mucous membranes of the body—sometimes in that of the stomach and bowels—at others, in the lungs—and in others, in the genito-urinary passages. It is situated in various parts of the body.

Treatment.—This must be general or local—or both general and local.

By the first, we must regulate the secretions—if there is debility, tonic or bitter infusions, with sedatives—such as

No. 126. Of infusion of gentian compound . 6 oz.
Bicarbonate of soda . . . . 2 dr.
Hydrocyanic acid . . . . . 5 drops.
A fourth part 2 or 3 times a-day.

The diet must be light, nutritious, and easily digestible, avoiding all stimuli.

The local treatment, vinegar and water, or lemon juice and water. When the itching is violent at the lower bowel—we must ascertain, whether there are piles or fistula, or threadworms, and act accordingly—a lotion of vinegar and water, of tincture of opium and water, will often relieve—so will a lotion of sugar of lead, or of sulphate of zinc — and brushing the parts over with Friar's balsam (tincture of Benjamin) gives marked relief; the last especially.

The itching that attends the urinary passage, in male and female, depends on some irritation of a neighhouring part, which must be sought and prescribed for.

This itching is one of the most annoying and severe disorders to which man can be liable.

Grubs, Worms, Comedones.

The sebaceous glands of the skin are glandular organs in a baglike form, which are embedded in the true skin; and the ducts or outlets of these glands either open on the outer skin, or they terminate in the follicles of the hair. In grubs, the sebaceous secretion is thickened, and produces distension of the hair follicles, into which it opens,—when it reaches the mouth of the follicle the secretion hardens, becomes deeper in colour, and at the same time, from being exposed to the dust and dirt of the atmosphere, the extremity is rendered dingy and dark coloured. This discoloration of the sebaceous substance at its ex-

tremity, gives rise to the appearance of a round black spot,—thus says Mr. E. Wilson, and continues. If a fold of skin including one of these spots be pressed between the fingers, the concreted secretion is squeezed out, about a line in length, and blackened at its extremity—making it look like a worm.

This secretion is sometimes hard and concrete, instead of being soft; it then looks like horn—and might require to be removed by a pair of ciliary forceps.

This disorder of the sebaceous glands is commonly met with on the face of persons in whom the cutaneous circulation is less active than natural—and particularly among the inhabitants of cities and large towns, in whom the brain and nervous system claim an undue proportion of the vital energies; and in whom fulness of the internal organs is not infrequent. It is met with as an accompaniment of acne, or blotched face.

Treatment.—The skin must be stimulated gently—rub gently with soap, then wash well—then rub briskly with a rough towel, until the skin begins to glow—this to be done twice a-day.

A red patchy state ensues at first; but it speedily passes away.

Cold bathing and sea bathing—and this lotion.

No. 127. Of bichloride of mercury (corrosive sublimate) . . . 2 gr.
Eau de Cologne . . . . . 2 oz.
Distilled water . . . . . 6 oz.

or the same quantity of the bichloride to half a-pint of emulsion of bitter almonds.

There are other sebaceous accumulations, forming swellings, more or less large—and out of some of them a horny matter would exude.

The treatment may be collected from what has been already said.

ACNE, OR COPPER NOSE.

This is a chronic inflammation of the sebaceous glands and of their excretory hair follicles. There is an eruption of hard *conical elevations*, distinct from each other, of *moderate size*, and more or less red. The tops become

yellow and burst—while the bases remain in an indolent state, for some time before they disappear.

This prevails during the middle period of life, up to old age; it may be developed on all parts of the body—but is more frequent where the skin is thickest, and where the parts are exposed to the air.

Acne is divided into a simple form—and a rosaceous form.

The primary form is a hard, red pimple—most commonly on nose, cheeks, temples, and forehead—also on back, the neck and shoulders.—The rosaceous form is most frequently met with in old persons, especially females—and its common seat is nose and cheeks.—The colour is a rosy tint; but this changes to a violet.—In extreme cases the veins enlarge, and the skin around becomes hardened.—One kind of acne is called pointed or spotted; from a small black point, which forms at the top of each pimple.

The indurated and rosy kinds of acne are not susceptible of cure, but may be much alleviated.

Causes.—Hereditary tendency—indigestion—excess in eating or drinking—disorders of the womb—change of life—irritating substances to the skin.

Treatment.—In young and full-blooded people, lower the diet—avoid all stimulants—give gentle aperients—lotions of spirit or of sugar of lead.

In the indurated kind, rub with an ointment.

No. 128. Of Iodide of sulphur . . . . 20 grs.
Lard . . . . . 1 oz.

or with a paste made of sulphur and milk.

We may apply dilute acids or caustic to the eruption—or a lotion consisting of two grains of bicyanuret of mercury to an ounce of distilled water.—Apply by camel-hair pencil—and wash off with cold water.

Alterative medicines may be given—two or three grains of blue pill or Plummer's pill; one every night for a few nights.

A drop of creasote in a draught of one ounce water and one drachm of mucilage—three times a day.

In the rosaceous form, still more care as to diet, and abstinence from spirits, avoidance of hot fires, heated rooms, and mental excitement.—For local applications, the vapour douche, and the ointment of bicyanide of mercury.

Skin, or Chin-welk, or Sycosis.

Redness, or itching, heat and distension of the skin of the chin, lower jaw, or upper lip; which are followed by an eruption of small, red points, which in two or three days ripen into distinct pointed pustules each traversed; by a single hair.

In five or six days these pustules burst, discharge their contents, a yellowish fluid, not mixed with sebaceous matter as in acne—and form thin brown scabs, which fall off, and are sometimes not renewed—the disease terminates in from ten days to a fortnight; but successive crops may appear for a long time.

A smarting pain attends the eruption—the beard falls off—and in long standing cases the skin of the parts is covered with a tubercle, or hard red elevation of the skin.

Causes.—The male sex—youth—spring and autumn predisposes—while any irritants—heat—neglect of cleanliness—will excite it.

Cooks, founders, and smiths, are subject.

Treatment.—Poultices are best—or warm fomentations—gentle aperients and diluent drinks—but if the disease is severe, we must lower the food, or only allow slops—and keep the bowels more open. Every hair must be cut off singly with flat curved scissors—and if they are loose, pull them out.

Poultices of marshmallow root and potato flour laid on tepid.—In obstinate cases, a more healthy blood must be formed, and chalybeates given.

No. 129. Of citrate of iron . . ½ dr.—30 grs.
Infusion of calumba . . . 6 oz.

A sixth part twice or thrice a day—with occasional aperients.

The Hair—Baldness.

Baldness may arise from defective development of the formative pulps of the hair, or defective circulation in them, or defective nutrition of them—or from disturbed circulation in the hair bulbs—and the causes are, hereditary tendency—acute diseases preceding—certain diseases of the skin, mercury, syphilis, coffee taken in excess, late hours, *abuse of pleasure,* and old age.

The hair may fall off, when the vital powers are directed especially to one part of the body, as in some diseases—during pregnancy—after very active purgation—in rheumatism—and gout—and in consumption.

Baldness is much modified by sex—females are less subject than males—probably because there is more fat under the skin in them than in men.—The scalp of bald persons is very thin—and eunuchs, who are generally fat, have remarkably long and permanent hair. It is well said, that the very hairs of our heads are numbered—and no application can cause one hair more to grow than we are born to have; any more than we could cause an additional finger to grow.

Treatment.—We must try to stimulate the circulation on the scalp.—The head should be washed every morning with soap, and dried with a rough towel, then brushing it with a hard hair-brush until redness is produced—then a stimulating application should be rubbed in for about five minutes.

Hair Embrocation.

No. 130. Of Eau de Cologne . . . . 2 oz.
Tincture of cantharides . . 2 dr.
Oil of rosemary } of each 10 drops.
——lavender }

Or this pomatum of Dupuytren's,—

No. 131. Of Purified beef marrow . . . 1 oz.
Acetate of lead (sugar of lead) 1 dr.
Peruvian balsam . . . . 3 drs.
Alcohol . . . . . 1 oz.
Tincture of cantharides, cloves, and canella } of each 15 drops. Mix.

Gibert recommends this:—

No. 132. Of Purified beef marrow . . 6 drs.
Oil of sweet almonds . . . 2 oz.
Powder of red bark . . . 1 dr. Mix.

Repeated shaving is of service—the object of which is to confine the nutritive fluids to the formative structure of *the pulp, till* it shall be strong enough to form hair of a *proper size* and strength.

Whatever may be wrong in the system must be cor-

rected—so, if there is debility, tonics—and if indigestion exists, the proper remedies must be resorted to.

Where it is desired to get rid of superfluous hair—the following depilatory ointment may be tried.

No. 133. Of Slaked lime . . . . . 2 drachms.
Sub-carbonate of soda . 2 drachms.
Hog's-lard . . . . . 2 oz. Mix.

Or this powder:

No. 134. Of Lime . . . . . 1 oz.
Sub-carbonate of potash 2 oz.
Charcoal in powder . . 1 dr. Mix.

Barbadoes Leg—Elephantiasis.

This is not uncommon in the West Indies; in some parts of which it is endemic—not common in Europe. It is not contagious, and it attacks indiscriminately males and females, rich and poor.

At its commencement there is fever, vomiting, pain, and redness along the course of the lymphatic vessels, with swelling of the limb or part. This swelling never subsides entirely, and increases with each returning constitutional attack; and this last subsides and returns at irregular intervals. The limb (the lower extremities usually) increases to an enormous size, and becomes so hard, as to resist the firmest pressure. The general disturbance and local pain disappear after some months, but the swollen part continues to increase—the leg has equalled in weight the rest of the body, and the scrotum has been known to weigh nearly sixty pounds. The skin, at first pale and smooth, becomes rough, hard, thickened, and covered with scaly incrustations of varying thickness. The gland swells, and forms matter—deep abscesses form.

Treatment.—Local and general bleeding at first, with rest in a horizontal posture afterwards, gentle friction—compression carefully applied, daily shampooing, vapour-baths and douche—iodine frictions.

Jaundice, or Icterus.

Languor and inactivity, with loss of appetite, are the *first symptoms;* then probably there is a bitter taste in

the mouth—a sense of uneasiness or pain in the right side, over the liver—the white of the eye and the whole surface of the body become of a yellow colour, and the yellowness sometimes deepens into a green colour—this is called the green jaundice—the urine is high-coloured, and tinges linen dipped into it, yellow; there is nausea, and perhaps vomiting—there may be obstinate costiveness, or the reverse state of looseness; but the stools are of a clay colour—though they may be high-coloured.—In some rare cases, the sweat and saliva are yellow—and objects seen by the patient are tinged of a yellow colour—the pulse is slow, unless there are local pain and constitutional disturbance, when it is quick; and the skin will be hot and dry.—In all the cases the author has met with, there was an itching of the skin.

It is generally believed, that the various modifications to which the biliary secretion is subject, have a powerful influence in impairing the digestive functions—and such modifications have given rise to the very popular term—bilious disorders. This convenient term has been loosely applied, even by medical men themselves.—Some apply it to those diseases of the digestive organs which are attended with an excess of bile—others again to those in which there is a deficiency of bile, or a vitiation of it; and many, under this term, comprise all derangements of the digestion, which are attended with any form of biliary derangement. To crown the misapplication of terms—impaired digestion, and impaired biliary secretion are used synonymously—as if the secretion of the bile was the only condition upon which digestion depends. We fully agree with Dr. W. Thompson, whose words have been quoted.

The biliary secretion may be diminished—or in redundancy—or it may be vitiated, or it may be impeded in its course.

The only evidence of diminution in this secretion, where there is no evidence of mechanical obstruction, is that the fæces are, more or less, pale, or are of a dull white, or ash colour. This is considered to arise from torpor of the liver—yet many cases are on record, of suspension or diminution of the biliary secretion, where the liver has shown post-mortem no evidence of disease, and where the *bile ducts* have been empty.—It has been supposed, to *account for this*, that the elements of the bile have not *been separated* from the bile, in the same way as the urine

has not been secreted in suppression of the urine.—In the former case bile, in the latter urea has been detected in the blood—both these acting as a poison, and giving rise to coma and similar head symptoms. Of excess of bile—we can show no incontestable evidence—for a small quantity of bile may so colour the evacuations by stool, as to resemble copious biliary motions.—Yet after death evidence enough has been obtained in the diseased alterations of the liver. When jaundice occurs, while there seems to be plenty of bile in the stools, an excess is deduced from those circumstances to exist.

Vitiated biliary secretion may exist, and has been proved to do so, but there are no evidences during life.

An impeded secretion does at times exist, there is no doubt; and then the bile is re-absorbed into the system and gives rise to jaundice.

Dark or black motions have been considered to indicate an excess of bile—yet these may arise from a diseased irritation of the mucous membrane of the bowels—so likewise green stools are considered to be bilious—yet they, too, depend more probably on diseased secretions thrown out from the irritated mucous membrane of the bowels—but when the stools exhibit a white colour, it is generally in connexion with jaundice—and may be considered as evidences of obstruction to the passage of the bile, and of its re-absorption into the blood.

Where white stools have been observed, without the occurrence of jaundice, we may presume that the blood itself is deficient in the biliary principles—for if they depended on functional derangement of the liver, the bile would be re-absorbed, and so give rise to jaundice.

Refer to the First Section—article SECRETION—where the causes of bilious headache, &c., are discussed.

Causes.—Any kind of pressure upon the excretory tubes that convey the bile from the liver to the bowel—or these tubes, or ducts, may be obstructed within as in the case of gall-stones. Pregnancy is a cause; but then the jaundice disappears after delivery—newly-born children suffer. Jaundice may be an accompaniment of inflammation of the liver, acute or chronic—mental emotions are not unfrequently a cause. A high temperature, too, may give rise to jaundice in Europeans, who go to live in warm climates. This effect of a high *temperature* has been explained by some; who *suppose that it depends* upon a sympathy between the ex-

treme vessels of the skin and those of the vessel which forms the bile (the vena porta) — others suppose it to depend upon a connexion between the liver and lungs, which enables one of these organs to perform in part the functions of the other. It has been found that the quantity of carbonic acid gas formed during the breathing and expelled at every breath, is diminished by a high temperature, and by circumstances which lower the powers of life. Now the excess of carbon must be carried off by some other channel than the lungs — and as bile is chiefly formed of carbon and hydrogen, an increased secretion of bile must guard the system against the superabundance of the carbonic acid gas. Hence the increased flow of bile in hot climates—and hence the cause of jaundice arising from the depressing passions, fatigue, stimulating drinks, &c., which may act by diminishing the quantity of carbonic acid gas formed in healthy respiration.

Treatment.—Leaving gall-stones to be treated of hereafter—we should, in treating cases of jaundice, endeavour to 1st,—diminish biliary secretion when excessive—2nd, to increase it when deficient—3rd, to correct it when vitiated —and 4th, to promote the excretion of the bile and to remove or relax spasm.

Now the first indication can only be done by avoiding causes, that is, high temperatures, and by diminishing the quantity of animal food. If an irritable state of the bowels be present, and should be irritating the liver to undue secretion—this state must first be removed.

The second indication is effected by mercury—upon which medical men depend to a certain extent, except in cases of gall-stones — some thinking it acts as a specific on the liver, others, merely as a purgative. Mercury may be given often and in small quantities—so as to touch gently gums and mouth—or it may be given in large, purgative doses.

If any symptoms of inflammation of liver, either subacute or chronic, remain or are present, cupping or leeches to the right side, where pain or uneasiness may be complained of—then 4 or 6 grains of calomel, with 8 or 10 of jalap, may be given at night, and worked off next morning with a salts and senna draught. Then small doses, either *of calomel,* 1 grain—or of mercury and chalk powder 4 *grains—every* night, or night and morning, for some time

—but watch so as not to salivate. If mercury seem to disagree by exciting thirst or feverish symptoms—then

No. 135. Of Socotrine aloes . . . . . 3 gr.
Hard soap . . . . . 6 gr.

Make 2 pills to be taken every night and morning.

If no signs of feverishness exist, we may give

No. 135. Of Compound infusion of gentian . . . . 1½ oz.
Subcarbonate of soda . 15 gr. to 20 gr.

thrice daily—and if much depression of spirits attend, add 15 to 20 drops of sal volatile.

Aloes is an excellent remedy in jaundice and in torpor of bowels from deficient bile—and it may be combined with taraxacum, with quinine, &c., according to circumstances.

The temporary defect of bile may be supplied by various bitters, occasionally united with rhubarb, aloes, and the like.

The writer has often prescribed this :—

No. 136. Of Watery extract of aloes . 10 gr.
Dandelion . . . . . 2 dr.
Mint, or peppermint water 6 oz.

A table-spoonful every 4 hours.

Dandelion, or taraxacum, is very useful, when there is no stomach disease coexistent.

No. 137. Of Bruised dandelion . . . . 4 oz.
Distilled water . . . . . 1½ pint.

Boil to a pint.

Of this 2 oz. may be given 2 or 3 times a-day, with cream of tartar, 1 drachm, if the bowels are very sluggish—if they are not, the bicarbonate or carbonate of potash or of soda, 20 to 30 grains, instead of the cream of tartar.

These medicines are also adapted to correct a vitiated secretion of bile; as far as we know at the present of its morbid conditions.

As to the 4th, that of relaxing spasm—opium is the chief, if not the only remedy—but when the bowels continue costive, an emetic or two has often, by exciting the action of the muscles of the belly, &c., caused bile to flow into the bowel—when it would soon pass away by the bowels, or *be made to pass* away, by any aperient.

Gall Stones

May be formed of thickened bile—being secreted too thick —or being detained in the bile ducts—but gall stones may consist of what is called cholesterine, or of resinous matter —or of what is called picromel.

Now when gall stones are composed of such elements— we can only suppose that the cholesterine, &c., are contained in excess in the bile, or else, that there is a deficiency in the bile of the element, on which the solution of the cholesterine depends.

Gall stones may form in all parts of the biliary passages —but they all find their way to the bile ducts or to the gall bladder—where they grow larger—and if they are situated either in the duct of the gall bladder, bile may flow into the bowels—but once fixed in the bile duct, which is common to the liver and gall bladder, a stoppage of bile must ensue—and jaundice.

These gall stones cause some painful symptoms as they pass along, though they have been formed in numbers, and remained in the gall bladder unknown and unfelt—and have only been discovered after death.

Sometimes they occasion a dull pain, increased on motion or after taking food—but the pain attending the passage of a gall stone is often intense. It is usually seated in the pit of the stomach, extending to the back and the right side. The pains are like labour-pains — and intervals of comparative ease succeed the fits of pain; but there remains a dull pain.

This pain may be a mark of inflammation—but then we should have fever and accelerated pulse—and tenderness on pressure—whereas pressure mitigates—so that the sufferer applies his hand to his stomach or rests his belly upon some hard substance.

According to Dr. Pemberton—the more exquisite the pain, provided the pulse is below 100 in the minute, so much the more confident we may be of gall stones being in the act of passing. After a time, vomiting usually comes on; then we shall have tenderness of the belly on pressure.

The pulse is even slower than natural sometimes— *generally* unaffected — shiverings, or rigors, as they are *called, may set in*—just as shiverings, at times, accompany *the passage of a* bougie up the urethra.

When a large stone has once forced its way through the ducts, others pass more easily—and quantities are often got rid of easily enough.

Sometimes a large concretion sticks in the bowels somewhere; and may give rise to serious symptoms. *See* ILEUS and INFLAMMATION OF THE BOWELS. But as they pass out with the stools, we should look for them in the evacuations—by mixing the stool with water, upon the surface of which any gall stones will most probably float, since they are lighter than water. They will not, however, float after having been soaked for some time, and they do not always float when fresh from the gall bladder. We should, therefore, examine as early as possible—both for floating concretions, and for others, by pouring the fluid, &c., carefully off.

These stones form most readily in corpulent persons—of sedentary habits—who eat and drink well, sleep much, and neglect their bowels.

Cattle, when shut up in stalls, are said to be subject to gall stones, and to lose the complaint when turned out to grass—hence Van Swieten deemed grass to be a good remedy for jaundice. Cattle shut up, will not thus suffer—if they are carefully rubbed, as a horse is groomed—whereby the skin is kept in a good state.

Gall stones collect in great numbers sometimes, and Dr. T Watson tells us he has heard of an instance, in which upwards of 1300 gall stones were taken from a human gall bladder after death.

Treatment of Gall Stones,—What we want to effect here is, to get rid of the mechanical impediment to their passage out—and also to ease suffering.

Should pain at pit of stomach become tenderness, leeches or blood-letting. Our sheet anchor, both in relieving spasm and pain together, is opium in full doses.

Those who are sufferers from gall stones, says Dr. Heberden, should have constantly by them pills containing one grain of pure opium in each—one to be taken as soon as pain comes on, and repeated once or twice in the course of two hours, if the pain require—and much more may be safely given, and is necessary. Pills are less likely to be rejected than draughts—but neither pill nor draught can always be borne—then opium in lavement—thirty drops of laudanum in a small quantity of warm *gruel, and repeated* when necessary.

The warm bath is indispensable almost—but if it cannot be procured, warm fomentations, mustard poultices, or the warm turpentine folds of linen, are to be applied.

One or two drachms of the carbonate of soda to a pint of hot water, and large draughts of it taken—will procure alleviation at times, the alkali controlling acidity; and the hot water acting as a fomentation. With these draughts, opium may be combined.

As soon as the pain is quelled—clear the bowels by aperients.

To prevent the formation of these concretions—we must prevent indulgence or exposure to the causes, favouring their formation—corpulency must be combated, *see* CORPULENCY—luxurious or sedentary habits given up—the patient should eat and sleep less, and walk or ride more.

It is believed that the continued use of alkalies renders the bile less disposed to concrete—so they may be given—twenty or thirty drops of liquor of potash in some bitter infusion. But one remedy has been much extolled—it was introduced by Dr. Durande, of Dijon—it is this—

No. 138. Of Sulphuric ether . . . . $\frac{1}{2}$ oz.
Spirits of turpentine . . . $1\frac{1}{2}$ oz.

Begin with forty drops, and increase gradually—taken in water. As ether is a solvent of cholesterine—this remedy may prove beneficial.

In some bad cases of pain from gall stones passing—when the warm bath and opiates had failed—the author has succeeded with a tobacco lavement—about twelve grains to four ounces or six ounces of water, or of gruel.—It requires to be watched on account of the great depression which tobacco, so administered, will produce in some constitutions—but with brandy, ammonia, or ether, at hand, it is well worth while to try the remedy.—In cases where spasm may be supposed to exist in the bile ducts—it has appeared a superior remedy to opium.—Dr. Heberden first recommended tobacco to be tried—yet he never did try it.

If jaundice have followed after an injudicious suppression of any discharge, or of bleeding from piles; we must in the latter case apply leeches near to the lower bowel—*so as to* unload the surcharged great veins in the belly.

If there is much debility, give these pills:—

No. 139. Of Extract of aloes (watery extract) } of each 20 grs.
Sulphate of quinine }
Make into twenty pills—one, two, or three times a day.

Night Blindness.—Nyctalopia.

Here the sight is perfectly clear and distinct in the daytime; but a total blindness takes place by night.

It is symptomatic of disorder of the digestive organs—of the liver especially—and is peculiar to tropical climates.

Repeated blisters to temples—a green silk blind over the eyes to be worn, and intense light avoided.—Wash the eyes several times a day with cold water or an eye-wash or collyrium.

No. 140. Of Sulphate of zinc . . . . 10 grs.
Rose water . . . . . 4 oz.

Deafness.—Deaf and Dumb.

Depends on many causes—some capable of removal, others not so.—Deafness sometimes depends on hardened wax in the outer ear passage—this deafness is usually accompanied with noises as of singing, &c., in the organ. To remove it, drop a small quantity of warm oil, olive or almond, into the ear, for two or three successive nights—and then syringe well with warm water, by means of a two-ounce syringe.

Other kinds of deafness must be treated by a professional man. Dumbness proceeds from deafness, either existing from birth, or arising early in life.—It rarely happens that dumbness is entailed by deafness, so late as the tenth year.—In the deafness from birth, sounds can never be associated with ideas—in deafness coming on later in life, even if speech shall already have been acquired, it may gradually be lost in consequence of the want of habit to associate sound with speech.

Canine Appetite.—Bulimia.

This is a craving for food beyond the natural wants of the system, sometimes excessive in degree.

The quantities of food, &c.. taken in some cases are almost incredible. In one, a French prisoner, consumed in one day four pounds of raw cow's udder, ten pounds of raw beef, and two pounds of candles, with five bottles of porter, In another, the patient would eat anything—the refuse of the kitchen—rejected matters, or corrupted meats—he was obliged even to be driven from the dead room. He ultimately died of consumption.

In this disease the coats of the stomach are morbidly irritable; its nerves morbidly sensible; and its muscular coat especially irritable, so as to move away the contents of the stomach in a very short time.—It has been divided into the bulimia of gluttons; into that of excessive appetite from exhaustion after diseases, discharges, &c.; and into voracious appetite, followed by vomiting.

Usually three or four large motions are passed daily—a nauseous smell emanates from the body, and sometimes there are excessive perspirations.

Treatment.—The glutton can only be cured by a fit of illness; and not always then. He must employ his mind and body more, that he may abuse his stomach less—very justly observes Dr. Copland.

In the second kind, we must watch—for no general rules can be laid down: and in the third, nauseating purgatives have done good service—namely, castor oil, with the oil of turpentine—and the tartar emetic or croton oil liniment rubbed into the pit of the stomach. The patient must abstain from food to a considerable extent—great distress from hunger will be felt for a few days, which will subside. Dr. Crane gave portable soup, made into pills, for several weeks, and recovery followed.

Opiates, or very small quantities of tobacco, will help the patient to support better the hunger than he otherwise could do. The Americans swallow balls made of a calcareous powder and of tobacco—to still the hunger and distress from fasting.

Rumination.

This is, regurgitation of food which had passed into the stomach, and which is re-masticated; and again swallowed.

A good many instances are on record of this affection—

and the second mastication seemed to be far from unpleasant. Anthony Recchi, who was a human ruminant, said of the second mastication—"Indeed, it is sweeter than honey, and accompanied with a more delightful relish." Human rumination is an involuntary act; yet the act can be hastened or suspended for a certain time, by the individual.

It arises from insufficiently masticated and insalivated food—which irritates the stomach to a retrograde action—and this is combined with a distended stomach. There is probably debility with increased organic sensibility of the stomach. The treatment is that of indigestion.

COSTIVENESS—OBSTIPATIO.

This is said to proceed in most cases from a torpid state of one of the larger bowels (the colon). There is a deficiency of contractile power, and the fæcal matters are detained in the bowel—giving rise to other symptoms.

This weakness of the bowel may be caused or accompanied by exhausting discharges, or whatever may have debilitated the general system.

But when once this bowel, the colon, has become habituated to distension, its coats give way, and the diameter of the bowel enlarges to an extreme degree in some cases.

The fæculent matter may be retained in the bowel for varying periods—and cases are on record where a fæcal evacuation would take place once only in two or three weeks—yet no suffering ensue.

Dr. Baillie published a case which continued fifteen weeks—and instances of constipation for three, four, five, seven, eight, and nine months have been recorded. One person, a young female, never had more than one evacuation every two months, during five years, and enjoyed good health.

In these cases, the appetite has usually been wanting more or less—or there has been increased evacuation by the skin or the kidneys.

Some of the most healthy persons are subject to costiveness, because an active absorption of the fluid part of the remainder of the food goes on in the colon—but costiveness may be caused by the very reverse state, of debility, in which the propelling power is defective.

Causes.—Sedentary life and habits—indigestible food

and improper drinks, as imperfectly prepared bread, new cheese, nuts, cucumbers, and others—too much sleep and too much bed—by prolonged suckling—too much mental or physical exertion—tumours pressing, and various lesions of structure—rupture.

Symptoms—vary much in different individuals—but generally the countenance and skin are foul and unhealthy—the perspiration thick, clammy, bad smelling—breath offensive—tongue loaded or furred—lips and gums pale—imperfect or fanciful appetite—digestion impeded—the belly, which should always be closely examined, will be found swollen, doughy, and inelastic—headache—urine loaded—motions take place, and they are slimy, very dark, or otherwise discoloured, scanty, and offensive—the pulse soft and weak, sometimes slow, at others quick.

In the female, there may be a tendency to fainting, flabby state of the flesh, swelling of ankles, languor, lassitude, and pains in loins or belly, or much of the fæcal matter may be retained, and yet there may be daily motions. The refuse matter, mixed up with the secretions of the bowels, lodge in the cells of the colon, through the centre of which a passage is made; and it would seem as if there was nothing retained—yet the cells of the colon may be full of hardened fæces, only with a small central passage through them—the bowel becomes more and more distended, and the evil goes on increasing.—The stools may be liquid, or mixed with lumps, or slimy, of a dark-green or brownish black hue, very offensive—and griping, bearing down, or a scalding sensation, accompany the ejection of these irritating materials from the bowels.

Windy distension of the bowels is almost an invariable accompaniment, and adds to the distress.

Treatment.—Purgatives give immediate relief, but unfortunately the bowels return to their former state—and nothing short of continual purgatives will meet the case—it becomes, therefore, urgently necessary to try some other means.

This is sometimes effectually, and always most pleasantly effected by diet—a change in diet will at times suffice. The bread should be the brown bread, with more or less of the bran in it, and this coarser bread is of all *agents* the most effectual. (For a fuller detail, refer to *Diet and Food.*)

The accumulation in the bowels must be first got rid of.

Aperients, both by mouth and lavement, must be administered. We may give—

No. 141. Of Compound decoction of aloes . . . . . } of each, 1 oz.
Infusion of senna . . }
Tincture of jalap . . . 1 drachm.

Or a blue pill, three grains, and compound extract of colocynth, three grains, in two pills, at night—and a dose of salts and senna next morning. If necessary, this latter may be repeated. Where active purgatives like these fail, a drop of croton oil in half an ounce of castor oil, will succeed.

These should not be given if there is tenderness over the part, with full, perhaps hard pulse—then blisters, hot fomentations, or leeches, or even bloodletting from the arm.

Clysters will help, but should never be solely relied on, as many persons do who live in a foreign land. These only wash out a few inches of the lower bowel—unless a long pipe, 18 inches long, can be introduced—and no one but a medical man should attempt to do this. Some of our fellow-countrymen, who have been students at foreign universities, have seen cases where patients have had one or two daily clysters thrown up—yet the bowels have, after death, been found quite crammed with fæculent matter.

Stricture of Colon or Rectum.

In some cases, a stricture or mechanical impediment in the lower part of the colon has existed. Here it is obvious that nothing but mechanical dilatation will do good. Then a rectum bougie should be gently introduced at certain times—but this none other than medical men should attempt.

The symptoms in such a case would be an urgent desire to go to the water-closet; yet, after severe straining efforts, nothing but wind, and a little slimy mucus, with perhaps some blood intermixed, are expelled. Here active forcing purgatives will do mischief.

Some take a dinner pill, as it is called.

No. 142. Dinner pills—Lady Webster's.

Of Socotrine aloes, powdered . .	3 drs.
Mastich, finely powdered . .	1 dr.

Mix well together—much depends on thorough admixture. Then add of syrup of ginger—enough to make sixty pills. One or two of these to be taken an hour every day before dinner—or every other day.

But in tolerably healthy vigorous habits—the author gives the following:—

No. 143. Of Wine of seeds of colchicum (meadow saffron)	½ oz
Liquor of potash.	2 drs.
Tincture of gentian . . .	6 drs.

Mix—dose, sixty drops, or a teaspoonful, every night and morning—until the motions become of a soft consistence; then a seidlitz powder, or four grains of compound extract of colocynth, will remove the mass. These drops act indirectly upon the bile ducts—and so imitate nature's operations. But these drops should be discontinued if they seem to disagree, by causing deadly languor or sickness, or very loose motions.

Cold-water douche to the belly—standing on cold floor, &c. In extreme cases, where there is no mechanical impediment, the tobacco clyster must be tried.

The treatment for indigestion and flatulence may be referred to—the tonic infusions with carbonates of potash or of soda—diligent frictions with the flesh-brush to belly—and when the belly is very much distended—a bandage should be worn to give tone—and stimulate to contraction.

Nervous Blindness.—Gutta Serena: Amaurosis.

Blindness—partial or complete, in one or both eyes. A peculiar gait marks the walking movements—which latter are uncertain.

There is a characteristic stare—the pupils are fixed or oscillating, and insensible to light.

Treatment.—This must depend on the cause. If there is organic disease of the brain, we must act accordingly.

But in many cases there is not much hope of cure—

still, where it depends on hysteria, or irritations in stomach and bowels, we may hope for restoration of sight.

To the non-professional person, we would recommend repeated blistering behind the temples, and, where it can be borne, the blistered surface should be kept open by means of savin cerate—and small doses of calomel may be tried—until the gums begin to swell.

Incontinence or Immoderate Flow of Urine. Enuresis.

This may arise from mechanical causes, or from derangements of the bladder.

The urine is expelled from the bladder by the muscular coat, and it is retained in the bladder by a circular set of fibres which surround the neck of the bladder. Now the muscular coat may be forced into undue action, or the sphincter (circular) muscle may be deficient in action, or palsied even.

In either case, the urine may flow immoderately. Where the first state exists, there will be evidence of local irritation—symptoms of stone in the bladder, of a chronic inflammation, or of spasm, will show themselves. Here, opium in the shape of clyster or suppository. A grain of opium, with two or three grains of soap, makes a good suppository—for a clyster, thirty drops of tincture of opium, in three or four ounces of starch, will relieve the state of spasm. Besides these, warm bath, hip-bath, cupping to the loins—and very gentle aperients—so that there need be no straining at stool.

In the other kind, in which there is frequent making water during the day, and an involuntary discharge at night—we must give two or three drops of tincture of cantharides, with ten drops of tincture of henbane—and increase gradually and cautiously. These doses are for children—who are frequently affected—for grown-up persons, begin with twelve drops of tincture of cantharides, every six hours—increased to twenty—for a few days, will cure. When signs of strangury come on, discontinue the Spanish-fly. For signs of strangury, see next disease.

Children should be made to lie on their sides at night, and not on their backs—for, in the latter position, the *urine lies in a triangular* space of the bladder, which is

peculiarly sensible and irritable. In some, doses of thirty drops of tincture of muriated iron three times, daily, have cured.

The urine is perfectly retained during the day, and voided only at night—habit has more to do with the matter than debility of the circular muscle. Here we must make the children leave the bed about midnight for the purpose of emptying the bladder—no liquid should be drunk in the evening, or for some time before going to bed. It has been necessary to threaten punishment.

The urethra, or passage, has to be kept closed in boys or men, by a bit of a bougie, &c., tied round it before going to bed—and the bladder should be emptied the last moment.

Difficulty in Voiding Urine.—Strangury: Dysury.

The term dysury comprises an arrest of the flow of urine, for a shorter or longer time, and a complete retention of it, with pain at the time, and, in some cases, the pain is severe.

Causes.—The urine may have been retained too long, and so have become irritating as it passes, and a spasm arises which stops the flow—or the bladder may be in an irritated or slightly inflamed state—inflammation or swellings in the neighbourhood of the bladder, as from piles, worms, hardened fæces.

Strangury means an intense degree of dysuria, and may be produced by cantharides, corrosive sublimate, foxglove, in large doses, or other irritant matters. Stricture of the passage is a frequent cause; and hysteria will cause it.

Treatment.—This will obviously depend on the cause. Mechanical impediments must be removed—hardened fæces cleared away by an active purgative, or by clysters.

The urine itself must be diluted by copious draughts of barley-water—in which some sweet spirits of nitre have been introduced—or draughts of bicarbonate of potash or of soda, thirty grains of either—or thirty drops of liquor of potash. But warm fomentations, and, still better, a *warm bath*, or hip-bath, will relieve.

The liniment of the extract of belladonna, half a drachm,

in soap liniment, one ounce and a-half—rubbed into the perinæum. Others praise the tincture of muriated iron.

SUPPRESSION OF THE URINE.—ISCHURIA.

Here no urine is voided, because its secretion is suppressed. It differs from retention of urine, in which the urine is retained in the bladder—in retention the urine is secreted in the kidney, but retained in the bladder.

This is usually a serious, and fatal disease. It occurs in persons advanced in life and corpulent. Retention may lead to serious consequences likewise. In one case, a female, who had no opportunity of voiding urine for some considerable time, found she could not do so at last—and a rupture took place in the passage, which could never be healed. And if the urine is too long retained, and no operation is resorted to, to open the bladder, similar symptoms to those which terminate suppression will ensue.

In suppression, there may or may not be any pain, or weight in the loins, or distension in the belly. No urine may have passed for some time, a day or more—and on trying by an instrument none will be found in the bladder.—Then nausea comes on, with languor and heaviness—the pulse, at first slow, becomes excited, the skin hot, the features hot, &c. Then drowsiness steals on, generally by the third day—the features become puffy, the ankles swelled.—The drowsiness lapses into coma about the fourth day, and death, with or without convulsions, follows in two or three more. In some instances, the urine may be diminished daily, till complete suppression is developed.

Causes.—Pre-existing disease of the kidney—cold and wet.

Treatment.—Where there are no signs of disease of the kidney—bloodletting—Dover's powder, five grains, with twenty grains of carbonate of potash—the warm bath.—Purgatives may be tried.

As soon as coma sets in, there is no hope—for this coma is one of the signs of a poisoning of the blood, by the urea it contains—which urea ought to be sent out of the blood and the body, through the kidneys.

Granular Disease of the Kidney, or Bright's Disease.

We have described inflammation of the kidney—and in some scrofulous constitutions it may be followed by this disease. Nearly forty years ago, discovery was made of the connexion between dropsical affections and this peculiar disease, in which a yellowish grain-like matter is deposited in the substance of the kidney—causing a wasting away of certain parts of its texture, and a dropsy, which may be called renal.

There is an acute and a chronic form—and its course may be slow or rapid.

Symptoms are shiverings, ushering in fever—the urine is scanty, almost suppressed, occasionally bloody—and passed with difficulty. It contains albumen, as a distinguishing sign. Albumen is familiarly known to us, in the white of the egg. It will pass when undiluted from the fluid to the solid state, when heated to 160° of Fahrenheit —when diluted, a heat of 212° becomes necessary.

Heat then affords us the means of testing for albumen. This may be done in a spoon—but most conveniently in a glass tube, heated by means of a spirit lamp.

As there may be mucus in the urine, we should first filter. There may be so much albumen in the urine, that the whole of it becomes solid. Usually a whitish cloud appears, which collects into flakes—which subside after a time.

Heat is not, however, a conclusive test. When recently discharged, the urine may be neutral, or even alkaline—or it may become so, after it has left the bladder. Now this alkaline or neutral urine will not coagulate when heated, not even when it is full of albumen.

We then test the urine by dropping in some nitric acid, which has the property of precipitating albumen in a flaky or pulpy form. We should test the urine, then, by first boiling it, and then dropping in nitric acid.

To continue the symptoms—there will be pain in the loins, shooting down to the groin—pain across the pit of the stomach, felt or increased on pressure, and attended with nausea and vomiting. Anasarca or dropsy of the *cellular membrane* makes its appearance on the second or *even first day* sometimes. If the disease be not checked

by active treatment, we may have some internal inflammation—as in the chest. Frequently it ends in coma.

The chronic form may follow on the acute—but more commonly it commences obscurely and insidiously—and the only invariable character is scanty, highly coagulable urine, with more or less of fever—and these symptoms may prevail alone for a few days, till coma and convulsions supervene. Frequent making water, and increasing debility—obscure pains in the loins;—the urine may be scanty or the contrary, and its colour is pale, sometimes cherry red or brown, often muddy, and coagulating more or less by the action of heat and nitric acid. This state may go on for months, or even a year or two—when the strength is reduced more and more—the body is more or less reduced in flesh—the skin dingy or waxy pale—the skin dry—drowsiness—sickness—retching.

Dropsy, diarrhœa, rheumatism, catarrh, diseased heart, coma follow. The essential characters are, reduced density of the urine—with diminution of its solids, and reduction of the colouring matter of the blood.—The urine may or may not be coagulable—for although albumen is very generally present, it is not invariably so.

Causes—are obscure — intemperance — the scrofulous habit and scarlet fever predispose—the two first influence somewhat powerfully. Mercury, cantharides, or certain articles of diet, cheese, puddings, pastry, will cause albumen to appear in the urine.

No age is exempt—but it is most frequent between the ages of thirty and fifty.

The probability of recovery depends on the stage of the disease. Many have deemed it an incurable disease—but in its early stage, when the density of the urine is not much under the natural standard, and the blood still retains its due proportion of colouring matter, as shown by countenance and skin being of tolerably healthy colour—recovery may be accomplished. But in a more advanced stage, when, besides the morbid deposit in the kidney, there is an atrophy of the structure of the kidney, there is no hope.

Treatment.—We must look to the primary disease—and then to the secondary complications.

In the acute primary disease, blood-letting carried to faintness, or till the pulse is affected—then cupping or leeching to the loins.

Diminished local uneasiness, and less albumen in the urine

testify to the benefit derived from these bloodlettings. But we must not push the evacuation of blood too far—as the blood soon becomes impoverished in this disease—wherefore it is advisable to examine the blood, and ascertain the proportion of the blood globules.

The next point is, to induce perspiration—by five to eight grains of Dover's powder, thrice daily, and by a vapour or warm bath every evening, or oftener. James's powder, three grains may be substituted for the Dover's powder—and the acetate of ammonia is preferred by many. Laxatives are useful.

Diuretics, such as sweet spirits of nitre or acetate of potash—thirty drops of the former and thirty grains of the latter, are useful when there is dropsy—but diuretics are condemned by some as adding to the irritation in the kidney. It is not proved that they do increase the irritation—for they do not increase the albumen in the urine; which albumen is probably a test of the irritation existing in the kidney.

Mercurials must not be given, except as purgatives.

When the disease has been brought to a stand, then warm clothing, avoidance of cold or damp, also of spirituous liquors, or wine or malt liquors; give nutritious food in moderation, and use regular exercise.

These rules should be observed—and they, with warm baths at certain intervals, may effect further good, and prevent an attack or recurrence.

For the dropsy, diaphoretics, purgatives, and diuretics; and the first are best, if they will remove the dropsy—if they do not, as happens not uncommonly, then diuretics.

Give of foxglove, in powder, one or two grains, and in tincture, ten or fifteen drops, thrice a day; and of bitartrate of potash, one or two drachms, thrice daily. The decoction of broom-tops, too, is useful.

The fluid may be let out by acupuncture—puncturing with needles.

Sweating medicines may be given with the diuretics.

For the indigestion, bitters and alkalies—soda or potash. For the vomiting, ether, brandy and ammonia. Blisters over the stomach, opium, and hydrocyanic acid or creasote, will alleviate the vomiting.

For diarrhœa, opium, alternated with laxatives—or *opium and acetate of lead*—one grain of opium to three *of the lead, thrice daily.*

To quench thirst, soda or potash water, with or without wine. Where internal inflammations arise—treat as in ordinary cases.

For rheumatism, tincture of meadow saffron and opium. Coma usually bids defiance to all modes of treatment, unless in the early stage—then bloodletting, brisk purgatives, and diuretics.

The attending diseases of the heart are most relieved by removing the dropsical accumulation.

Inflammation of the Kidney, or Nephritis. Gravel and Stone—or Lithiasis.

A fit of the gravel, as it is called, is attended with the following symptoms. But a fit of the gravel is only when a powder or concrete matter is passed with the urine. It is no fit of gravel when the urine is ejected clear, but throws down an earthy sediment as it cools—which re-dissolves when artificially heated.

Pain, dull or it may be severe, in the loins, mostly on one side, and descending in the inside down towards the groin—numbness of the corresponding thigh—a drawing-up of the testicle, with pain in it—urine high coloured, nausea and vomiting.

The pain is increased by firm pressure when there is inflammation, by cough or sneezing, and in some cases by that act of the breathing called expiration or breathing outwards. The pain, too, is increased by straightening or stretching the limb on the affected side. The attitude preferred is, that of inclining to the affected side, at the same time drawing up the limbs.

The urine may at first be bloody—coagulable by heat and by acids—after a time, it becomes pale, watery, not coagulable, and either neutral or alkaline—frequent desire to pass it—and there is dysury, or difficulty in passing it—or it may be suppressed. When albumen is present—there is probably some degeneration of the kidney.

With these signs, fever attends—a full, hard pulse—tongue covered with a white fur—constipation—anxiety of countenance, and depression of spirits.

This pain must be distinguished from lumbago, and from nephralgia (a pain connected with the kidney).

In lumbago, the pain shoots down to the back part of the

thigh, and not to the front of the body—nor is the urine disturbed, as in kidney inflammation. In lumbago, the pain is on both sides; in inflammation, the pain is on one side.

The pain in colic may be confounded with this inflammatory pain—but in colic, there are, at first, none of the fever symptoms above described—no full, hard pulse, nor white fur on tongue (*see* COLIC.)

The numbness of the thigh and drawing up of the testicle are characteristic too—but colic and pain is very often and may easily be mistaken, for Nephralgia, or pain caused by the passage of a stone from the kidney into the bladder.

The urine is first formed from the blood, in the kidney—and from the kidney a small, very irritable tube, the ureter, conveys it into the bladder—(consequently, a stone formed in the kidney follows the same course as the urine—that is, down the ureter into the bladder)—giving rise to spasm and pain as it passes down.—The ureter must not be confounded with the urethra—for the latter is the passage to convey the fluid from the bladder outwards.

In some cases, the clinking of a small stone in the pôt-de-chambre is the only circumstance that convinces the patient of his suffering having proceeded from stone and not from colic. Inflammation of the kidney may, like other inflammations, terminate in resolution (recovery), or pus (matter) may be formed—or, in mortification—coma is a common symptom at the end of a fatal case.

Causes.—Calculi or gravel—acid diuretics—long continued and violent exercise of the muscles of the back, as in horse exercise—hardened masses of excrement in the neighbouring bowel—gout may leave the external part upon which it had seized, and then attack the kidney.

Treatment of Inflamed Kidney.—Bloodletting from the arm—by cupping—and by many leeches to the loins.

Then give opiates—thirty or forty drops of the tincture directly after the bloodletting.—This sometimes arrests the disease at once.

Castor oil—and frequent soothing clysters.

Barley water, gum water, decoctions of marshmallow, linseed tea, or even pure water—with a little nitre in *them*—warm hip-baths; repeated when necessary—warm *fomentations*—opiate clysters, tincture of opium, thirty or forty drops to half-a-pint of starch.

In cases of long-standing, embrocations, or an issue, or a seton, perfect rest.—The catheter to draw off the water, if necessary. Nephralgia, or kidney pain, may be discussed under the head of gravel and urinary stone.

GRAVEL.

Dull pains, or they may be acute—with a feeling of heat and of heaviness in the region of the loins—there is more or less pain in passing the water, with pain over the bladder, and irritation at its neck—itching or pain at the extremity of the yard. In some instances, the testicles are drawn upwards—and the urine may be bloody, or there may be clots of blood in it.

The urine, just as it is expelled, and still warm, contains a sandy powder, or grains of sand or small stones, of a greyish or reddish-brown colour.—It is scanty, high-coloured, acid, smells strongly, and becomes turbid on cooling.

With these, the digestion is deranged—there is weight at pit of stomach—sourness of mouth—flatulence—constipation—furred tongue—restlessness, and other signs of irritation. The pain is apt to be increased by all sudden agitation of the body, such as running, leaping, riding on horseback.

In order to understand the meaning of the terms, acid urine, alkaline urine—our readers should know how to prepare and to use certain tests of acidity or alkalinity of the urine.

For acids, litmus paper is used—it may be made by saturating unsized paper (free from lime) in a strong infusion of litmus (about one ounce to half-a-pint of boiling water), and drying it in a place entirely free from acid vapours. If not of a good blue colour, dip it a second time.—It should be kept from air and light.

For alkalies, rose paper—made by saturating unsized paper two or three times in a strong infusion of red roses (about two ounces of the petals to a pint of water), and drying the paper quickly. This, too, should be kept from air and light, and in a dry situation.

Turmeric paper is also a test—which is changed from *yellow to brown* when the urine is alkaline—blue litmus *and rose paper to* red when the urine is acid.

Dr. B. Reid gives the following directions how to prepare test papers:—

"Cut a common red cabbage into small pieces, and boil it, for a short time, with no more water than is required to cover it. Or, infuse the cabbage in boiling water. Dip into this solution a number of slips of paper, four or six inches square:—let them be kept there till they have imbibed the colour, then dry, and keep them from the light, except when used. Acid reddens these, alkali turns the colour green.

"*Litmus Paper.*—Boil litmus in five or six times its bulk of water—slips of this colour, dried, are reddened by acids, but not turned to a green by alkalies.

"*Turmeric Paper.*—Pour upon a table-spoonful of turmeric, placed upon a common plate, three or four times its bulk of boiling water. Put slips of paper in it—dry them—they are of a fine yellow colour, become reddish-brown by alkalies, but are not affected by acids."

The urine in health is never alkaline.

The gravel, or sand, may be divided into lithic gravel, or that composed of lithic acid and lithate of ammonia—and this is by far the most frequent form met with.

Next in frequency is the phosphatic gravel—where the deposit consists of phosphate of lime, or the phosphate of lime and magnesia, or of both combined—and another kind of gravel is the oxalic acid gravel, composed of the oxalate of lime.

In oxalic acid gravel, there is less constitutional derangement in the form of fever or indigestion, before the local symptoms show themselves.

If we have reason to suspect an unhealthy state of the urine, we should notice whether it be colourless, transparent, or turbid—we should ascertain by litmus paper whether the urine is acid, alkaline, or neutral—its specific weight or gravity—set it aside to see if it deposit sediment or throw up a cream to the surface, or crystallize on the sides of the vessel. The urine examined should be just expelled—and if any discharges exist, which are likely to discolour it by admixture, the water should be drawn off so as to have it without any admixture.

We may suppose the urates to be in excess when the urine is acid—when it deposits, on cooling, a red, pink, buff-coloured, or white precipitate, covering the bottom of the vessel with an even powdery deposit—which deposit is

usually copious, and is dissolved by heat—Uric acid urine is highly acid—deposits, on cooling, a red, pink, or buff-coloured sediment, which adheres to the sides of the vessel in hard crystalline grains—having, by microscope, the appearance of diamond-shaped plates or prisms—the precipitates are generally scanty.

When urine is acid, alkaline, or neutral—but turbid on emission, and deposits a white or yellowish sediment, and is not rendered transparent by heat, there will be present phosphates, oxalate of lime, cystine, mucus or pus, or blood; now if the phosphates are present, the urine is rendered transparent by acetic acid—the phosphates appear as powders (not crystallized) by microscope. The phosphates are soluble in acetic and muriatic acids, and insoluble in liquor of potash. When the urine does not redden litmus paper—but turns it blue again when it has been reddened by a weak acid—or when the urine is so alkaline as to turn turmeric paper brown—we may conclude that a case of the phosphatic gravel, or tendency, is before us.

If oxalate of lime—the urine is not affected by acetic acid or ammonia—but is rendered transparent by nitric acid—and the deposit, when viewed by the microscope, consists of octahedral crystals.

If cystine is present, the urine is rendered transparent by the solution of ammonia—and the deposit consists of five-sided plates, clouded in the centres.

If pus or mucus be in the urine—try it by heat, and if the urine be rendered transparent by heat, there is no pus—there is a whitish sediment, not disturbed by any of these agents—and the microscope enables us to see minute, irregular, spherical bodies, with grain-like surfaces. A blood sediment is red—not dissolved by nitric acid, heat, or acetic acid—while the deposit contains minute irregular bodies of yellowish colour, the shape of a shilling.

There may be some dissolved constituents of the urine—these are bile; to detect it—add nitric acid, and drop the fluids on a plate of glass, at a short distance from it—and as they mix, examine for the green colour, which will become manifest if there is bile.

Albumen in the urine is coagulated by heat, and this coagulum cannot be re-dissolved by nitric acid.

Sugar in urine gives it a sweet taste, and a high specific

gravity of 1.025 or above—boil the suspected urine with an equal bulk of liquor of potash. If sugar be present, the urine will assume a deep porter or beer colour.

These admixtures may be met with in the urine—but usually the lithic gravel, the phosphatic gravel, and the oxalic, are of greatest importance; because most frequently occurring.

In oxalic gravel the constitution suffers less than in the other kinds, before the local symptoms show themselves. The paroxysm or fit of the gravel, is perhaps the first occurrence which draws our attention to the state of the urine—and the urine is clear when passed, and does not form a great deal of sediment when cooled.

After this oxalic tendency has existed for some time, there may be a good deal of irritability and nervous depression, with wind in the stomach or bowels—and in some cases with certain eruptions of the skin, of a scaly character.

This tendency leads to the formation of the lithic acid deposits.

The phosphates exist in the form of a loose and not over abundant powder—and the urine is usually very abundant. But in other instances, the phosphates are discharged in such quantities that the urine is very turbid, so as to look like milk.

The general symptoms of the phosphates are severe.

The digestion is much disturbed—the bowels are at one time costive—at others freely acted upon—the pulse is small, frequent, and irritable. Hectic fever attacks at last.

This phosphatic tendency is more connected with fixed or organic disease than is the acid gravel—as it may be called—and with it there often co-exists a stone in the bladder, or disease of the structure of the kidney, or disease of the neighbouring parts.

The urine is paler than usual—often smelling of ammonia as soon as it has passed, or very soon after passing, —and it is disposed to become turbid (thick, not transparent), or a sort of film forms on the surface of the fluid, which, looked at in different lights, exhibits the colours of the rainbow—it smells sometimes like weak broth.

There is a cystic gravel—in which the urine is of a *greenish* yellow colour, and of peculiar odour, and it *remains* muddy after long standing.

But we should always examine the gravel itself—the lithic gravel is greyish, reddish, or brownish, not soluble in diluted muriatic acid, but easily soluble in liquor of potash. The sand consists of fine crystals, or else there are no crystals to be seen by the microscope. The urine is scanty, of darkish tint, is always acid to litmus paper.

Phosphatic gravel is white or grey—it is insoluble in liquor of potash; but easily dissolved in dilute muriatic or acetic acids.

It may consist of the phosphate of lime alone, but rarely—sometimes it may consist of the phosphate of magnesia and ammonia. The urine here is pale—abundant in quantity, prone to decay—and on boiling, it may become turbid, and deposit a white flaky precipitate, which precipitate is easily dissolved on adding nitric acid.

Oxalic gravel is generally brown, bluish, or grey—soluble in diluted nitric acid, hardly soluble in muriatic acid diluted, and it is insoluble in acetic acid and liquor of potash—the corresponding urine is pale; and if there be any oxalic acid in it, a solution of muriate of lime being added, there may be a white precipitate, insoluble by muriatic acid.

The cystic gravel assumes a crystalline, and as it were a waxy appearance—it is soluble in dilute muriatic acid, not soluble in acetic acid, and soluble in a solution of carbonate of potash, from which the carbonate of ammonia precipitates it. The accompanying urine is of a greenish yellow colour, and of an odour, as if that of the briar were mingled with that of decayed urine—and it remains turbid after resting some hours.

Causes.—It is of importance to learn what the causes are in most diseases; but it is particularly so in this.

Particular kinds of diet will give rise to gravel—so will organic diseases of the urinary organs, or of digestion. It is promoted by suppressed perspiration, and it is more frequent in infancy than in youth, and very frequent, if not most frequent of all, after the age of forty, and in old age.

Food and drink are powerful causes—even operating singly—though, frequently, constitutional causes co-operate.

The kind of urine in which the most frequent form of gravel is found, is that formed by a diet, rich, nutritive, solid, and in excess—a diet which abounds in animal principles of *nitrogenous* kind.

Now, let a person live on such a diet as this—neglecting exercise, and living in indolence and luxury—the lithate of ammonia will soon appear; and this lithic tendency can only be reduced by a moderate diet of non-nitrogenous character.

Particular articles of diet favour the development of gravel, such as those which favour indigestion, and such as calcareous mineral waters.

Thus, too, a fit of indigestion will cause aggravation of the urinary disorder—for if acid be secreted in undue quantity in the stomach, it is also secreted in excess in the urine.

Some substances, which are hard of digestion, would seem to favour the formation of gravel, though they do not excite indigestion. Rich, heavy puddings are of this character.

We can easily understand how highly nitrogenous food acts in causing acid gravel—since the excess of nitrogen derived from the food must be thrown out by the urine in the form of acid. Amongst these articles of food, perhaps, there is not one which will as certainly increase the density of the urine, and increase its tendency to form deposits as cheese; and accordingly we find it is injurious to all those who are subject to gravel. It is very indigestible, and may also act in that way—besides acting through its highly nitrogenous character.

Acids, acid wines, &c., are very efficient causes; and they may act through their own acidity, or by increasing the stomach's tendency to form acid.

Again, waters abounding in salts of lime are frequent causes; and the disease is common in districts, in which such waters abound.

These errors in diet chiefly conduce to the formation and deposit of the lithic or uric acid gravel—while the phosphatic gravel tendency is fostered by indigestion—the oxalic gravel arises from the use of sorrel and of vegetables which contain oxalic acid.

Certain injuries of the spine or on the loins, are amongst the exciting causes.

Organic diseases in the urinary organs, or in the stomach, will engender this disease—so will organic diseases of the liver—and also of the heart. The red or purplish gravel of the lithic kind is thus caused; while the phos-

phates are formed more frequently during the irritation from stone, or from fixed disease in the parts themselves.

Suppressed perspiration from sudden exposure to cold, and also a neglect of proper exercise, will cause gravel in those who are predisposed; and hereditary tendency is frequent. The indolent often live luxuriously, and thus, a diminished demand for perspiration will allow the gravel to be increased—neither the lungs nor the skin performing properly their functions of purifying the blood.

Treatment.—When the digestion is impaired, the necessary amount of respiratory food is not dissolved—the tissues are wasted by oxidation, and uric acid appears in and loads the urine. Or if the food is too abundant in bloodforming material—and if there exists, at the same time, a deficiency of alkali, which alkali is necessary to promote the change of the effete matter in the blood; we find there will then exist a tendency to form uric acid, or, with a little more oxygen, oxalic acid is formed. Gelatinous food, which cannot form blood, and is also deficient in alkali, and strong wines which contain no tartar, promote this tendency very considerably—wherefore we should recommend light wines, which contain tartar; vegetables, which abound in alkali; exercise in the open air; and moderation in meat or bloodforming diet. On the Rhine, where light wines are drunk freely, uric acid complaints are not known; but those who drink port and sherry, are great sufferers from uric acid gravel or stone; and from its frequent attending companion, gout.

Upon these principles treatment must be based.

There is a considerable difference in the tractability of the different kinds of gravel under treatment.

The most favourable kind is the lithic gravel—which is least frequently associated with organic and incurable disease. The phosphatic is more obstinate in yielding—it may, however, be removed, when it has arisen from some temporary causes—such as nervousness, anxiety, &c. It may be connected with permanently acting causes—such as organic disease of the liver, kidney, bladder, &c.

Pink-coloured deposits are usually thus connected—and may always be looked on as unfavourable.

The oxalic acid is both difficult to remove and it gives more pain to the sufferer than the other kinds—it is also a consequence or concomitant of organic disease.

We may form a favourable opinion from the results of treatment — if it seem to alleviate or remove the sediments. Our objects in the treatment of the lithic gravel, are, to increase the quantity of the urine—to lessen the excess of nitrogenous principles—and to neutralize the acid condition of the urine, or to render it, for a time, even alkaline, by certain medicines; and by increasing the perspiration.

The most important rule of all, is to diminish the quantity of food taken, and to alter its quality, by diminishing the proportion of nitrogenous ingredients—then we should increase the drink, always avoiding all acid drinks—the medicines must consist of alkalies. Since the time when Stephens's remedy for gravel, which consisted of a soap composed of lime and soda, the alkalies have been recognised as highly beneficial; both by correcting the acid in the stomach, and by acting on the urine itself.

The mode of administering them is to give 20 to 30 grains two or three times a-day of the bicarbonate of potash in any proper vehicle—and that vehicle may be some bitter infusion, that of the compound gentian or orange-peel, or calumba, or quassia—and bitters are valuable additions, when there are signs of debility, either of the digestive powers or of the body itself.

If, when there is much acid in the stomach, flatulence arises from the disengagement of the carbonic acid gas from the bicarbonate—then we may give the liquor of potash, 20 or 30 drops in chicken-broth, the almond mixture; milk, or the bitter infusions—but plentiful dilution must be attended to.

We should not continue this liquor of potash long—for it is apt to cause irritation—indeed, in almost all cases it is better to give the bicarbonates.

The use of alkalies has been supposed to debilitate the stomach—and so they would, if continued too long. But if they do act in this way, such an effect must arise from the abuse of them. They are also said to be prejudicial by changing the uric or lithic acid gravel (red gravel) into the phosphatic kind, or the white. Here we have a remedy in our own hands, which is merely to test the urine with test papers every day, while the alkalies are taken—and *discontinue* them as soon as the urine becomes alkaline *or no longer acid.*

We should be provided with test papers as above recom-

mended, coloured blue by infusion of litmus—and also with the same paper, slightly reddened by immersion in a weak acid. Healthy urine ought to turn the blue litmus paper a little red—and alkaline remedies ought not to be given in such doses, or so long as to destroy this property altogether—still less to render the urine alkaline. If the urine turn the red paper blue, we are in danger of producing a deposit of the phosphates; and alkalies must be sparingly given.

Urine, if alkaline, turns the reddened litmus paper blue—and if very alkaline, it turns the yellow turmeric paper brown.

Dr. Golding Bird recommends us, from his own experience, to give 20 to 30 grains three times a-day of the phosphate of soda well diluted—instead of the carbonates of potash or soda. The phosphate of soda will not impair the digestion as the alkalies are supposed to do.

Dr. Willis, however, in his work on urinary diseases, says that he has known the practice of taking alkalies during a long life, without apparent injury to the health; and Dr. Christison has seen them taken for twenty years without any bad effect.

The carbonates seem to be more efficacious than magnesia or lime water—which latter some practitioners much recommend. Magnesia is liable to one very serious objection—that of forming concretions in the bowels—where it has long been continued, or taken in large quantities.

The benzoic acid prevents the formation of uric acid, says Dr. Golding Bird. This is the formula:

No. 144. Of Carbonate of soda . . . 90 gr.
Benzoic acid. . . . . 40 gr.
Phosphate of soda . . . 3 dr.
Boiling water . . . . . 4 oz.

When cold, add

Of Cinnamon water . . . . 7½ oz.
Tincture of henbane. . . ½ oz.

Take of this two table-spoonfuls three times a-day.

There are several mineral waters very serviceable in gravel. Those of Vichy, near the Pyrenees; of Val and Carlsbad—and of these, the writer especially recommends the first. In one case, the effects were both immediate *and striking*—for the urine became clear after a very few

doses—while the small proportion of iron which enters into their composition, acted decidedly as a strengthener of the digestion. These waters are as nearly tasteless as possible, and they may be taken with any wine of good body, and not acescent.

Another recommendation of these alkaline waters is, that they foster no tendency to the formation of phosphatic deposits, instead of the lithic acid.

Exercise, both regular and active, has been insisted on by all practically informed men. It is true, that during exercise, the quantity of the urine is diminished; but this is counterbalanced by an increase of the perspiration; while exercise tends to lessen the quantity of the discharge from the bowels, which is derived from the food, and this is effected by its occasioning a greater demand for nutriment—causing a greater consumption of the food, and consequently leaving less residue to pass through the bowels.

If much excitement or irritability in the urinary organs and passages attend—active exercise will increase the pain—so that gentle exercise can then alone be borne, and in some cases, even absolute rest becomes necessary.

Here practical tact, a correct appreciation of the existing state, and the knowledge derived from experience, are all called into requisition.

Where indigestion accompanies the gravel—much difficulty may exist, as to the diet to be chosen. A vegetable diet may in such cases be called for, to lessen the gravel; but the stomach may be so enfeebled as to require a different diet—or there may exist an irritability of the stomach or an imperfect conversion of the food into chyme.

The irritability is best combated by leeches, or stimulant embrocations—by giving bismuth, hydrocyanic acid, &c.; the other state demands bitters, iron, &c.

The carbonates may continue to be given—and animal food may be allowed in small quantity.

The blue pill, two or three times a-week is useful,—and some aperient next morning.

Avoid checking the perspiration, and also exposure to cold, wherefore warm clothing is desirable—and if any check should happen, order warm baths immediately; to restore the functions of the skin.

Some have an idea that it is proper to force out the gravel, *by medicines*, which stimulate the kidneys—such as tur-

pentine, cantharides, &c. The writer has never been obliged to order these remedies.

In the phosphatic gravel, our treatment must differ considerably. The urine is neither defective as to quantity, nor is there any excess of the nitrogenous ingredient in it —while the whole powers of the system are enfeebled by some long existing causes—or by some chronic disease, which has been long exhausting the vital powers.

The diet must comprise nutritious and digestible food—including wine in many cases, according to the general state. To diminish the deposit in the urine, acids are indicated—not that they act by neutralizing the alkalinity of the urine, so much as by improving the digestion. It is now a received opinion, that acids will neutralize the alkaline urine in some cases—and that alkalies will increase the tendency to deposit—still it has been found that alkalies in the form of the bicarbonates, much diluted, will correct the phosphatic tendency.

The mineral water of Vichy, which has just been recommended in the lithic gravel cases, will act beneficially in phosphatic cases; removing deposits, and relieving the suffering. The chalybeate ingredient is here probably useful.

Laxatives are to be given—and such as tend to increase the quantity of the urine are to be preferred—the neutral salts—as cream of tartar, &c.

The secretions must be regulated by blue pill, or by an occasional dose of calomel.

For pain, we must give opium—from twenty to thirty drops of tincture of opium, when pain is severe—or a grain of opium at night, or five to ten grains of Dover's powder.

The preferable acids are the nitric or muriatic (hydrochloric) or both combined, and they may be given in the decoctions of pareira brava, or uva ursa, (whortleberry).

No. 145. Decoction of pareira brava.

Take of sliced pareira . . .		10 drs.
,, Distilled water . .		1½ pt.

Boil down to a pint.

The whortleberry decoction is made by putting one ounce of the whortleberry leaves into a pint and a-half of water—*and boiling* down to a pint.

No. 146. Of either of these decoctions 1½ or 2 oz.
Dilute nitric acid } of each 5 to 10 drops.
Hydrochloric acid }

Mix. Three times a day.

Oxalic gravel demands treatment similar to that recommended for lithic gravel—only the diet does not require to be so abstemious or to consist of vegetables, as in that for lithic acids.

Moderate living, the alkaline carbonates of potash or soda, properly regulated exercise, warm baths, and warm clothing, are what is wanted. Sorrel, wood sorrel, and all articles containing the oxalic acid, must be strictly avoided. It is also better to rely on the carbonate of potash than that of soda—as the former causes salts to form, more soluble than those formed by soda. The bicarbonate of soda may sometimes combine with the lithic acid, and form lithate of soda, which is an insoluble salt—whereas, if the bicarbonate of potash combines with the lithic acid, the resulting lithate of soda is a soluble salt—and so passes off in the urine without any danger.

Alkalies should be given an hour before food is taken, so as not to interfere with digestion.

Warm baths must never be neglected—they are powerful means—for they act on the nerves as a stimulant or a sedative—and on the blood in two ways—one by removing substances from it, the other by enabling remedies to be absorbed into it.

The Teplitz alkaline baths may do good by the alkali being absorbed. That the action of these baths may be made either stimulant or sedative is evident—and cold may be managed to act in a similar way.

To remove substances from the blood, the vapour bath is most efficient—and the two baths, vapour and warm-water bath, should be used in succession—and both before food is taken—as the system will then be in a fitter state for absorption.

The vapour bath first—to remove water and acid substances from the blood—then, immediately after, an alkaline water bath, by which alkaline water may be taken into the blood.

The diet in lithic gravel should exclude as much nitrogenous food as possible—only a moderate quantity of meat, and a small proportion of bread, are to be allowed. Flour

has too much starch to allow of living on bread. The object is to repair the tissues; and yet introduce as little of nitrogenous matter into the blood as possible. In vegetables, sugar and starch abound, and nitrogenous and oleaginous material exist in small quantity. Greens and peas are inadmissible—so are apples and pears.

There is no objection to fat—but an excess of butter must be avoided.

Gelatine in soups and jellies may be taken, in lieu, partially, of meat—for the albuminous tissues cannot be formed from it, and the strength would fail: wherefore some meat is necessary.

For drink, distilled water—oxygenate-water, &c.

Stone, or Urinary Calculus.

Sand or gravel may be converted into stone, or a portion of it may be cemented into stone, while the remainder may be passed as gravel.

This binding together of the particles of gravel is very important—for if there be no animal matter in the kidney to act as the cement, no stone will be formed—or very rarely—since stone is seldom or never formed from a nucleus created in the bladder—but in the kidney.

Whence comes this cement, or how is it formed? The mucous membrane of certain parts of the kidney secretes, or forms, in health, a fluid diluent and watery—but when the parts are inflamed, or when the blood from which this mucous fluid comes is too rich, too fibrinous—this usually diluent fluid becomes thickened, or inspissated into a kind of glue or cement.

Thus the first class of causes of urinary stone is, either an inflammatory state of the kidney, or too animalized a state of the blood—hence the advantage from plentiful dilution—from exercise—from a diet not too luxurious—and from healthy digestion, which precludes the formation of acid.

The second class of causes are those producing a sudden change in the state of activity of the kidneys—suppressed perspiration causes increased vicarious action in the kidneys, and the excrementitious matter, which the skin ought to have carried off, is transferred to the kidneys, and solid particles in the urine are deposited—this transfer *of action excites also* inflammation of the kidney, and thus

the plastic lymph is formed. These facts give us some insight into the way in which cold, bleak, damp situations, seem to favour the well known occurrence of stone in such districts.

A third class of causes is—erroneous diet.—When the fluids in the alimentary canal are acid, the urine is acid; and by giving alkalies, it becomes alkaline. If in the stomach of a person living chiefly on animal food, too much acid be generated, uric acid predominates in the urine—but when acid is produced in the stomach under poor diet, oxalate of lime is often formed in the kidney.

We have thus examined the causes leading to the formation of urinary stones—because patients who pass gravel, may avoid the graver results from calculi, by avoiding the causes which conduce to the formation of the animal cement or glue above described—and they may pass great quantities of gravel for many years, without the formation of a single calculus.

Symptoms.—Are those of gravel, with those arising from the impaction or passage of the stone from the kidney, down the narrow and irritable passage into the bladder, called the ureter.—A stone in the kidney is attended with pain or uneasiness in the loins, when it begins to excite pain—though it may lie in the kidney for an uncertain time, without any manifestation of its presence.

The pain from a stone in the kidney is usually attended with a pain at the neck of the bladder, low down in the body—that from a stone in the bladder is seated more at the end of the yard. The renal calculus may cause a wasting away of the kidney, or an inflammation in the parts.—Of wasting away, there is no marked symptom—but the inflammation shows itself by the ordinary signs of inflammation—hectic fever sets in at last, if relief be not obtained.

When the stone is passing downwards, there are pains like those of colic—only fixed in a region corresponding with the course of the ureter—and nausea, anxiety, constant desire to pass a scanty and sometimes bloody urine, with great pain, will also attend.

Suddenly these sufferings cease, and then it is probable that the stone has passed into the bladder. There it may remain without uneasiness, until it has increased to a large *size*—but its characteristic effects are, frequent desire to

make water—a sense of weight and uneasiness in the bladder, and at its neck—the pain is increased by exercise, exertion, or jolts—gravel escapes in augmented quantities—and there will be itching and pain at the glans penis, and this is endeavoured to be alleviated by stretching and pulling the foreskin, which becomes elongated.—The constitution sympathizes—and there are impaired digestion—feverishness—disturbed sleep—debility—emaciation, and anxiety—the urine becoming mixed with mucus and streaks of blood.

The presence of the calculus is made evident by sounding. If the stone gets into the urethra, and there sticks from its size—it causes pain at the part and an inability to pass any urine. Inflammation of the bladder at length takes place.

These kinds of calculi vary in size and form.—Those which are in the kidney are small—often no larger than a pin's head, and seldom larger than a pea—but when they get into the outlet of the kidney, they may grow much larger—even attaining the size of a tennis ball, and weighing two or three ounces.—Stones in the bladder may be very large indeed, and some weighing twelve ounces have been abstracted from the bladder—and one has been found in the bladder, Dr. Christison tells us, which weighed forty-four ounces.

They differ variously, also, as to form and surface—and the rougher, the more angular the surface, the greater the pain. They may vary in composition—some are composed of alternate layers of lithic acid, and other components.—The nucleus is usually small, and mostly consists of lithate of ammonia or of oxalate of lime—but a nucleus may be formed of a clot of blood or in the bladder, of a broken instrument, a portion of a bodkin, or bone, a tooth, a pebble, and such like.

Treatment of Stone.—The great object is to try to prevent the binding of the particles of gravel into a stone; which is to be done by avoiding the causes which have been shown above; and the treatment for gravel is also the treatment for stone, so we need not repeat.

But in addition, we have to deal with the stone in its passage down the ureter—or when it is there arrested.

To calm the *intense* pain, opium, twenty or thirty drops

of the tincture repeated as often as circumstances seem to require.

To relax the spasm or the contraction of the passage, warm baths must be tried—also anodyne lavements—such as twenty or thirty or more drops of laudanum, in some water, at near blood heat. A strong purgative will promote the expulsion of the stone sometimes.

Many attempts have been made to dissolve the stone in the bladder, by injections into it—but it was always supposed that the solutions for injecting required to be so strong, for any solvent effect to be produced on the calculus, that it was feared the coats of the bladder would suffer. It has lately been found that such strong injections are not needed—and that it was only necessary that the water or fluid to be injected should be often changed or else supplied in a continuous stream.

Sir Benjamin Brodie has proved that a solution of two drops and a half of nitric acid in every ounce of water, may be injected with impunity, even into a tender, irritable bladder—and he effected a cure in one instance by using an injection of this strength for fifteen or thirty minutes every two, three, or four days.

To inject any fluid into the bladder, a double catheter is necessary. Diluted solutions of the alkaline carbonates, or the Vichy waters, may be thrown into the bladder in the lithic gravel cases.

Galvanism has been proposed, to break down the stones into gravel, which is ejected very easily.

Cancer, or Scirrhus.

Many names have been given to growths of this nature —scirrhus, stone cancer, soft cancer, colloid or gum cancer; mammary sarcoma, containing a substance like boiled udder; lardaceous sarcoma, containing white matter, varying in consistence from that of softish cartilage to that of pork fat.

Scirrhus is remarkable for its hardness—it creaks when divided by a sharp knife—when the surfaces exposed by the knife show a glistening appearance, like that of satin, and a white, or grey or bluish-white colour. Intersecting bands, having a fibrous aspect, run across this greyish

substance. By strong pressure a thin liquid may be made to ooze from a slice of the tumour.

Another kind of cancer is called the encephaloid or brain-like. Here we see a soft, white, opaque, pulpy substance, which resembles the human brain. This pulp is traversed and circumscribed by fibrous dividing lines, which are sometimes extremely thin and delicate.

The third kind is the colloid, or gelatiniform, or areolar cancer—and here we see small portions of a greenish yellow, transparent gum or jelly, arranged in regular cells.

All these kinds are prone (says Dr. T. Watson) to multiply in various other parts, when they once occur in one part—they are attended with severe, lancinating pain—they are not to be controlled by any known remedy—they tend to augment in bulk, more or less rapidly, eating away contiguous parts—they break out when near the surface into a foul ulceration, producing ghastly disfigurement, and ultimately destroying life.

This dreadful foe attacks almost every organ or texture of the body.

The parts most liable to cancer, are those which are either exposed by their situation to slight accidental injuries, or by their function to variations in the supply of blood. To the former belong the integuments, the gullet, and the organs of locomotion—to the latter, the womb, stomach, liver, and testicle. The female breast belongs to both heads, and this disease frequently attacks it.

The morbid deposit is met with, in those parts of organs which contain secreting organs; as in the mouth and neck of the womb, and the pylorus (the outlet from the stomach into the bowels).

The signs of the cancerous tendency, when fully developed, are sufficiently characteristic—the complexion has a pale, lemon tinge—the eye is lustreless—the countenance sad—emaciation, disordered digestion, and languor of mind and body attend.

It is not always easy to tell the cancerous formation from some non-malignant disease—and some tumours have been hastily adjudged to be cancerous which were not so—adding much needless anxiety to the patient's mind.

If the part attacked is insulated, we must form our conclusion from the character of the pain, which is peculiar,

of a darting kind, and is subject to nightly increase—from the form of the ulcer—from the intractability of the disease—and lastly from the enlargement of the adjoining veins. If, with these, the constitutional signs are also present, we are more able to form a conclusion—for, though none of these signs can be relied on singly; yet on all united we may place some confidence.

Even in the dead subject, careful dissection is sometimes requisite to make manifest the nature of the disease.

The mode in which cancer originates is uncertain; the mode in which it spreads and multiplies is better understood—says Dr. Watson. Sometimes several separate and distant organs may be attacked by cancer at the same time—at others it begins in one spot—say the human mammæ or breast—with a small tumour, while the general health is not affected. This tumour enlarges—and softens—the glands in the armpit swell, become hard and painful—an open ulcer is at length formed, and soon, deposits take place in some of the internal organs—forming secondary tumours or deposits—and the latter are said by many to be caused by the former.

If this be true—one rule becomes evident—namely, to remove the primary tumour as soon as possible—but it is very uncertain whether early operations should be advised—or how many never suffer from second attacks—for cancer is a blood-disease.

Dr. Walshe tells us, that some special state of the natural solid tissues forms a most essential element of cancerous disease, and the tumour is a mere accident, and a sort of local agent in evolving the malady; and lastly, there is a peculiar constitutional state—the nature of which cannot at the present day be even divined, which is the very fountain and origin of the disease.

In the first period—the blood and solids are specially modified. Injury perhaps occurs—and an exudation, containing an intrinsic power of vegetation follows—the vegetating faculty of the exudation reacts on the system, by constantly draining it of its nutrient materials—the progeny feeds on the parent organism.

In the second period—the exudation encroaches and causes ulceration—discharges occur and drain the system.

Third period.—This is the last period of exhaustion.

We shall have occasion to mention cancer of the womb, *&c., elsewhere*—so in this place we will allude to the

general treatment, which is, indeed, the only treatment that can prove efficacious.

Treatment.—The best preventives comprise everything that tends to keep the body in health.

The curative, contains a long list of remedies. Some of the most noted we will mention.

Hemlock.—Much difference of opinion exists as to the curative efficacy of this plant—but cases are on record giving an impression, that the disease has been arrested in its advance by hemlock, long continued, and the quantity increased unto even poisonous doses.

Dr. A. Bayle gives three hundred and forty-one cases of cancer thus treated—whereof forty-six were cured, twenty-eight benefited, and in two hundred and sixty-seven, no benefit accrued.

Dr. Walshe thinks the hemlock is only useful by assuaging irritability and pain—he gave ten grains of the extract three times a day.

Belladonna, or Deadly Nightshade.—One case was cured by infusion of belladonna, and a plaster of it was worn—a woman of fifty-one was the patient.

Aconite (monkshood)—henbane—laurel—stramonium—mezereon have all failed. Foxglove also failed.

Sedum Acre (wall pepper) has seemed to quiet irritability—two to fifteen grains daily.

Antacids—Ammonia.—Martinet and Barbette, in 1781, speak enthusiastically of ammonia, both externally and internally. Give four or five grains in water daily, and apply this lotion:—

No. 147. Of Strong liquor of ammonia . ½ oz.
Water . . . . . 1 pint.

Place linen folds wetted with this, on the part twice daily.—Much benefit was derived, during the most advanced ulceration.

Tonics—Iron.—Mr. Carmichael extolled iron, used it externally and gave it internally.

Monsieur Duponget gave the biphosphate of iron in three cases—the fetid discharge was corrected—pain removed—appetite and sleep restored.

Dr. A. Thomson gives the iodide of iron—the syrup of the iodide—three grains of the iodide.

Gold *and copper* have been tried—but without benefit—*so has the chl*oride of barium.

Mercury is considered highly pernicious by most practitioners.

Iodide of potassium in some mucilaginous liquid, about one hour and a half after meals may be tried; if there is no irritability of the mucous membrane of the alimentary canal.

Arsenic.—A Swede, in 1778, cured thirty cases in fifty years' practice, by arsenic. Mr. Hill thinks it will retard the complaint; and prevent the ulcerative stage. It may be given in conjunction with narcotics and alkalies, or otherwise. But we can combine two powerful alteratives in the iodide of arsenic—it must be given in doses beginning with one-sixteenth of a grain twice daily, two hours after eating—increased to one-twelfth of a grain—this may be borne for months.—Its action must be watched, and unusual perspirations, with dry gullet, give warning when to stop; so does headache.—The pain and tumour may decrease in violence under this remedy—the general health improves, and the tumour diminishes, or the enlargement is at least suspended. Dr. Walshe tried this in some cases, where the constitution had begun to suffer.

This seems the only remedy that is worth trying—but Dr. A. Thomson always put his patients on a milk and vegetable diet—excluding meat—which latter caused more stimulus than a vegetable diet would; and the stimulus of a meat diet might possibly be incompatible with the action of the iodide of arsenic. Dr. A. Thomson published three cases of what he considered cure, and in which there had been no recurrence for years; see the *Lancet*, some time in 1844 or 1845.

As to external applications—leeches occasionally applied, seem to relieve local fulness—but much leeching will only break up the constitution.

Iodide of Lead Ointment.—One drachm of iodide of lead to one ounce of lard. Smear the part very gently with this, twice a day.

Pressure, whenever it can be applied, and the tumour is not of excessive bulk, should be resorted to early—and Dr. Arnott has invented an apparatus for the purpose. This pressure relieves the pain in a very marked manner—so long as it is kept applied. Dr. Walshe says, its effects are, *removal of* existing adhesions—disappearance of swelling *in the* communicating lymphatic glands—cessation of pain, *and gradual* reduction of bulky masses to small, rounded

nodules, or hard flat patches (which appear to be, both locally and generally, perfectly innocuous)—and, in the most favourable cases, a total removal of the morbid production. But the pressure must be tried, as early as possible. To avert bleeding from the part, the slack air cushion must be used.

To open cancer, various applications are made—hemlock poultices, yeast poulties, also poultices of stramonium—or of bruised carrots. Various caustics have been tried—but with little good result. Dr. Walshe's summary of deductions is—that undoubted cancerous tumours, both before and after ulceration has set in, have been cured or rendered innocuous.

The notion of its invariable incurability by remedies is not warranted. Cancerous growths may at an early period be removed altogether. Treatment, even when it fails to cure, may alleviate much or produce a suspension of the disease. Well directed compression aids the other remedies.

Dr. Arnott, of Brighton, has applied intense cold to scirrhus with happy effect. The tumours seem to become blanched and cold when thus treated. See *Lancet*, 1850, p. 262 of Vol. 2nd.

All modes of treatment fail in some cases—or even exasperate; but we cannot *à priori* distinguish such intractable cases. The brain-like and gummy cancer are less within the influence, of remedies, than is scirrhus.

There is no specific yet known; but why may there not?—since mercury and quinine have been discovered?—Medical men must all seek patiently and perseveringly, and with enough of incredulity to secure a sifting evidence.

Cancerous affections may last from a few weeks to many years; even ulcerated cancer may exercise no obvious influence in shortening life, and hardly cause more inconvenience than a perpetual issue would do.

Such are the conclusions of an author, who has paid especial attention to cancer, and has published a work on it.

Bronchocele, or Derbyshire Neck.

This is a swelling in front of the neck, and, when large, very much disfiguring the person.—The swelling is, at first, firm *and elastic*—then soft and flabby.—It grows

slowly at first—but sometimes increases very rapidly, extending in all directions, upwards, downwards, and sideways—it may even overhang the chest—and by its pressure cause much inconvenience.

Causes.—The female sex—hereditary tendency, and puberty, are predisposing causes.—The exciting causes are unknown.—It is endemic in certain places and countries.—When combined with imbecility or idiocy, it is the cretinism of Switzerland.

Treatment.—If there is heat of skin, or the patient is full bodied—lower at first, a little—apply leeches near the part.

Then paint once daily with tincture of iodine—or rub in, some iodine ointment.

At the same time, give about two grains of the iodide of potash three times a day.

Setons, and all operations, must be done by a surgeon.

Headache.

Headaches may be divided into dyspeptic or sick-headache—2nd, nervous—3rd, from fulness of the vessels in the head—4th, rheumatic—5th, gouty—6th, from disease of brain. The signs of the first are—chilliness, lassitude—coldness of feet—face flushed, swelled, and forehead hot—a dull and heavy pain in forehead or temples—veins swollen—no appetite—sickness—pulse quickened, often full—brown fur on tongue—acrid sensation at back of the throat, particularly after eructations—mouth clammy—saliva thick—breath offensive—skin dry and parched—urine limpid and abundant—palms of hands hot—intellect impaired for the time. The pain will shift to over the eyebrow—and this pain is peculiar to stomach and bowel irritation—noise and light aggravate the pain—and the pupil of the eye is contracted. Retching, vomiting, and straining succeed—at first increasing the pain. Next morning, the pain may be gone—but it may recur from some atmospherical causes.

Sometimes the liver ducts become implicated, and much bile is discharged.

Causes.—Everything that deranges the stomach—improper food—constipation. The second, or nervous headache—the signs are here, those of the first kind; only in the nervous the pain precedes the signs of stomach dis-

order—and the pain is acute and excruciating, not dull and heavy—pulse small and frequent. This often comes on, after mental excitement or fatigue.—It is more frequent in females, and is often connected with monthly suppression.—It may be severe during the day—and go off towards evening; but it generally recurs every evening, owing to the periodical augmentation of the energy of the brain, occurring every evening. The headache of hysteria is preceded by spasmodic pains in the belly—then confined pain in the head and about it, and it is confined to a space that can be covered by a nail; wherefore, this headache is called clavus. Here the attack is sudden—flatus is expelled—and antispasmodics relieve. This nervous kind comes on after excesses, fatigues—constipation and irritation in the bowels are causes.—This headache may become habitual—or impair the intellect and sight.

Treatment of these two kinds—An emetic in the dyspeptic—if there is no fulness in the head vessels—Eau de Cologne, one drachm in camphor mixture one or two ounces—or the carbonate of potash thirty grains, with spirits of sulphuric ether thirty drops, in nutmeg water and distilled water an ounce of each.—A colocynth and blue pill at night—next day, effervescing draughts with tincture of gentian, one drachm in each.

Eau de Cologne externally—mustard baths to feet—opiates are pernicious.

Dr. Burgess, after the bowels are open, gives half-grain doses of extract of aconite, every three or four hours.

Headache from Fulness.

The arteries may pour too much blood into the brain, or the veins may convey it too sluggishly away; whence stagnation arises. In the arterial, the face is flushed, tumid, and pulse full—in the venous, there is paleness of countenance, a spare habit of body, and small, feeble pulse. The pain is dull, deep-seated, going down the back—eyelids heavy and depressed—stiffness at back of the neck—vivacity gone—mind cloudy—a feeling as if a cord were bound round the head—also similar feeling at pit of the stomach—enlarged pupils—dizziness and sense of fulness—confusion of thought and intellect.

Causes.—Excessive fulness of vessels—great corpulency

—a stooping position and sedentary life—suppression of accustomed discharges—cold—hair worn too long—mental anxiety—atmospheric changes. Headaches are dangerous, when they are attended with signs of some disease in the brain—such as noises in the ears—much giddiness—temporary loss or obscurity of sight—difficult or slow utterance—numbness—violent, constant, and obstinate headaches are more alarming than are those which arise out of some temporary and removable cause.

Treatment.—Where there are signs of fulness, blood-letting, leeching, and very moderate or low diet—purges—cold to head—restoration of suppressed evacuations—but if there is more weakness than fulness, then purges are preferable which take away the watery parts of the blood—and not the red particles—the quantity of blood circulating, will thus be safely lessened.

The rheumatic headache is relieved by pressure—it is an aching, heavy pain—it may continue for several days, and is always worse at night—often coming on at the same hour—the arteries of head and temples do not throb—nor is the head hot, but rather cold. The cause of this is cold draughts of air.

Here warm baths—Dover's powder—five grains at night—purges—pills of quinine one grain, and acetous extract of colchicum half a grain—or one grain twice a day.

Gouty Headache.

Here there is the accompaniment of gouty symptoms.—The treatment is similar to that for the last kind—only the carbonate of potash or soda must be given.—*See* Gout.

Headache from Affection of Brain.

The head is more disturbed, and pain more constant than in the other kinds.—The treatment must depend on the state of the brain itself.

Toothache.

If the tooth is rotten, extraction is the best remedy—*where this* cannot be done, there are various applications

—dropping prussic acid into the tooth—or nitric acid—or this—

No. 148. Of Alum reduced to powder . 2 drs.
Spirits of nitric ether . . 7 drs.

This has been said to cure the worst cases.

Another is this—

No. 149. Of Creasote . . . . . 30 drops.
Tincture of opium . . . 60 drops.
Mastic . . . . . 2 drs.

Make a paste.

Another excellent remedy—said to be infallible—

No. 150. Of Powdered capsicum . . 2 to 3 drs.
Cyanuret of potash . . 10 grs.
Treacle . . . . . ½ oz. Mix.

The Gregorian remedy consisted of Curry powder made into a paste with brandy.

For tooth-powder, prepared chalk with cinnamon powder is the best—some oil of roses may be added—the chalk neutralizes the acidity of the mouth.

There is a form of face-ache or neuralgia, in which the pain seems to be fixed in the teeth—and many sound teeth have been in vain extracted.—The treatment should be constitutional, or else all the teeth may be taken out, and no good result.

Face-ache.—Neuralgia.—Tic Douloureux.

To the physiologist it would not appear extraordinary if spasmodic attacks of pain in various parts of the human frame were much more frequently met with than they are—for it is so constituted as to render it peculiarly sensible to the electrical changes in the atmosphere.—The pains of chronic rheumatism are frequently exasperated during the prevalence of certain winds—the east "neither fit for man nor beast," and the north east especially.—Even in bed in the morning, before rising, many persons have been able to tell that the wind has changed to east—from increase or accession of pain.—Neither the mere coldness, nor humidity, would be likely to produce such an effect *on a person* in bed—but all-pervading electricity *might.—And again,* some persons have been relieved of

their pains by seating them on a seat, resting on glass—thereby insulating them, and preventing the passage of the electric fluid through them—and others, by the employment of Pulvermacher's hydro-electric voltaic chain—and of electricity.

The student in organic chemistry finds some clue to the rationale of these facts—when he reads about the secreted fluids of the body—for while the blood, saliva, the intestinal secretion, the bile, and milk, are alkaline, and the pancreatic juice, either alkaline or neutral—the juice of the muscles, the gastric juice and the urine of the carnivorous and omnivorous animals are acid.—The acidity of the juice of flesh depends on the phosphate of potash, which is an acid salt—yet it is formed in close proximity to the alkaline phosphate of soda, which is in the blood—the blood and juice of flesh being separated only by very fine membranes.—An alkaline state of the blood is indispensable to its functions; for life could not co-exist, if the blood were acid—therefore every acid that enters the blood must be neutralized.—Yet the blood is in close proximity to an acid liquid—the juice of the flesh—and is communicating with it, with the gastric juice, and with urine—while it is frequently receiving uric acid and other acids.

We thus see that a galvanic circle is formed, ever acting in the body—by the existence in all its parts of an alkaline liquid, the blood—and an acid liquid, the juice of the flesh, separated by a very thin membrane, and in contact with muscles and nerves—and thus electric currents may take place in the body—causing the contraction of muscles, and the occurrence of pain, when the muscles contract from disordered function. The animal body may be regarded as a galvanic engine for the production of mechanical force.

This is a very agonizing pain in the face, coming on at uncertain intervals, and darting along the course of one of the nerves of the face. If the eye is affected, tears flow—if the mouth or jaw, the saliva is increased.—It continues for an uncertain time, and disappears as suddenly as it came on.—When the pain attacks the eyebrow, it often comes on periodically.—This form has been called *brow ague*. The general health is unaffected—and life continues often to an old age.

Causes.—These may depend on functional derangement, or on organic disease. Nine different causes have been assigned by one writer on this subject—viz.—A neuralgic habit—2. Dyspepsia—3. Disease of liver and other organs —4. Too little blood in the system—5. Disease of the spine—6. Disease of the womb—7. Disease of the brain—8. Local mechanical causes—9. Malaria, and recession of eruptions and other causes.

Treatment.—This must be arranged according to the causes. The carbonate of iron is the most successful remedy—and large doses are given by many—one drachm three times a day—but it is of first importance to correct the secretions, and to regulate the diet.

Where the liver is in fault, some calomel, one grain every night, for six or seven nights, and gentle aperients every morning.

Some have succeeded in relieving the pain by giving one grain of extract of belladonna for three successive hours, during the attack. Soon after the third pill the pain began to subside. Mr. Hunt gives arsenic with great success. He gives it with bicarbonate of potash, if there is any acid, or it may be given with opium or belladonna. He begins with four drops of Fowler's solution of arsenic, combined with eight drops of paregoric, and he increases the arsenic till symptoms of its decided action come on—which commonly happens when the dose has been increased to ten drops. These signs are dry mouth and gullet—pain and suffering in the stomach, and white tongue—then discontinue the arsenic—give farinaceous food, with nitrate of potash three or four grains, and of Scheele's prussic acid two drops, in some water.

When the tongue is foul, farinaceous food, till the stomach becomes less sensitive. Then the diet must be gradually more nutritious.

Where the spine is affected, blisters to the back and stimulating embrocations.

An emetic before, or as soon as the attack has commenced, has done good service.

In periodical attacks, an emetic, then a purgative, then quinine or arsenic—but do not give arsenic if there is a red loaded tongue, or if the urine lets fall a copious sediment. Look to the teeth always.

Dr. Watson gave muriate of ammonia, thirty grains,

three times a day; and when one remedy fails, another should be tried.

For external applications, the aconite, or its alkaloid.

Aconitine is most likely to deaden the pain—one grain of aconitine to sixty grains of cerate may be rubbed into the part—veratria in like quantity.

If the pain continue long, put a small blister, or raise a blister with nitric acid—as before recommended in page 219, and dress the blistered surface with acetate of morphine, three grains; lard, half an ounce.

The author has ordered, with considerable effect, the liniment composed of soap liniment, two ounces; cyanuret of potass, ten grains; and of extract of belladonna, forty grains: rub in, the size of a nut, two or three times, at intervals of an hour or less.

The tincture of wild or Indian hemp, ten drops, three times a day, will often relieve. It causes feelings resembling those of intoxication.

The magnet has been of service.

Whatever seems wrong in the system should be corrected, if possible to do so—but as this painful disorder often depends on organic and irremovable disease—palliatives are all that can then be resorted to.

Sprains.

A strain signifies a violent stretching of tendinous or ligamentous parts, with or without rupture of some of their fibres. Such an accident is followed by instant severe pain, so severe as sometimes to cause faintness, and by swelling, to which succeed weakness and stiffness.

If the accident is not treated properly, inflammation and fever may arise.

Treatment.—Rest, absolute rest is necessary. Then apply warm fomentations, or cold applications; whichever may be preferred by the patient. Leeches, low diet, purges, &c., if inflammation seems to threaten: then, as soon as all heat and tenderness are gone, we must procure absorption, and restore the strength of the part by *rubbing* with various stimulating liniments, such as this—*of liquor of* ammonia, two drachms; of soap liniment, one *ounce.*

The writer's favourite application is iodine, either rubbed in, in the form of ointment, or else painted over the parts by means of a brush. Of iodine, thirty grains should be put into one ounce of alcohol, or spirits of wine. It leaves a walnut-liquor coloured stain on the skin, which goes off after a time. This is a cleanly application—not troublesome—and only requires to be painted on every night, or night and morning.

The ointment is thus made—of iodine, thirty grains; iodide of potassium, sixty grains; lard, two ounces. Mix.

Hand rubbing—moderate exercise, and bandages.

A succession of blisters has been found necessary, in some obstinate cases.

SCALDS AND BURNS.

These are usually divided into three classes :—

1st. Burns producing mere redness.

2nd. Those causing vesication—little bladders on the part.

3rd. Those causing the death of the part burned.

The symptoms of those of the first class are, mere superficial inflammation, which goes off, or as medical men say, terminates in resolution, and the outer skin or cuticle peels off, or it may not do so.

In the second class, the inflammation excited is in a higher degree, and the true skin exudes serum and forms vesicles—which vesicles in slight cases dry up and heal—but if the injury is followed by suppuration, or the formation of matter, they will probably be succeeded by obstinate ulcers. The pain here is much more severe than in the former case—especially if the vesicles have been torn, and the surface of the true skin exposed to the air, and to the contact of foreign bodies. The formation of these vesicles may often be prevented by proper treatment—they generally appear immediately after the accident, although they, in some rare cases, do not rise for three days.

The third class of burns, is attended with mortification; from disorganization of structure. There is less pain—but the consequences are very serious—for the sores which remain after the mortified parts have separated, may remain *for months or years* before they heal.

Constitutional symptoms are, a great sinking of the powers (collapse, it is called)—the surface is pale—the pulse quick and feeble—violent and repeated shiverings—the sufferer complains of cold.

In fatal cases, laborious breathing, coma, and death succeed—whilst, in others, the fatal event is preceded by signs of an imperfect reaction, the pulse and heat of skin recovering from the shock a little; to these succeed delirium and sharp pulse.

In burns, blood is driven from the surface to the interior—hence the frequent consecutive inflammations of brain, lungs, pleura, stomach, or of bowels. When these inflammations occur early, the serous membranes are found to have suffered—when late, as in chronic cases, the mucous.

Burns of great extent are always dangerous—and those on the body are more dangerous than those of an equal extent on the arms or legs. There is more danger, too, in the extremes of life—in infancy and old age.

The pain may be violent and so tend to exhaust—but a total want of pain is more unfavourable—especially when accompanied by drowsiness and apathy—for it is as if the scale of sensibility had shrunk below the point of pain. Constant shivering—coldness of legs and arms—a livid hue of skin, drowsiness, and twitchings of muscles, are sure forerunners of death.

Burns may prove fatal at three periods—in the stage of collapse or sinking—in that of reaction—and at any subsequent period.

The first period may comprise about five days—the second will comprise more or less time, according to the state and to the organ inflamed; in the third, death ensues from the exhausting suppuration, which has drained the sufferer.

In some cases, ulcers have been formed in the bowels, after severe burns.

Treatment.—Great debates and discussions have been expended on the question, whether Kentish's stimulating plan of treatment, or that by ice and cooling applications be the better plan—but we must aim at the following objects:—

1st. That the first applications should be of a mildly *stimulating* nature.

2nd. After the first two or three days, they should be *soothing.*

3rd. Slight astringents may be applied.

4th. The part must be carefully excluded from the air.

The treatment may be divided into the local, and the constitutional treatment—to which succeeds that of the ulcers.

Local Treatment of Slight Cases.—In slight cases of the first and second degrees, the little bladders should be pricked with a needle, to let out the serum—then the burned part should be covered with lint soaked in a liniment of equal parts of oil and lime-water, and then be wrapped in soft cotton wool.

After the first two or three days, a zinc lotion may be applied on lint and covered with oil silk—or a poultice, or the water-dressing—after these, the chalk ointment.

No. 151. Chalk ointment.

Of Chalk, finely powdered .	1 oz.
Olive oil	3 drachms.
Lard	½ oz. Mix.

To defend the parts from exposure to the air; many plans of treatment are recommended—cover with collodion, or bathe the part with tepid oil of turpentine, or alcohol, or ether, (which may be warmed by putting them into a teacup immersed in boiling water,) then enwrap with lint or cotton.

If the cooling plan be preferred, cold water, iced water—pounded ice mixed with lard—potato poultice, or grated turnip: but when cooling applications are preferred, they must be renewed often enough to keep up the sensation of cold.

Carron oil, composed of equal parts of linseed oil and lime-water, is much recommended—its smell is a great drawback.

Flour, sprinkled over the part with a dredger, or soft and finely carded cotton, are very useful applications.—They are to be strewed on, in thick layers—so as to soak up—absorb the discharge. But these are apt to become dry, hard, and irritating—and maggots may get in, or putridity be induced.

Mr. Cleghorn advises warm vinegar to be applied for the first twelve hours, then poultices till matter is formed, then afterwards chalk.

Severe cases require bathing the parts with tepid turpentine; then put on quickly, lint spread thickly with this *liniment:*

No. 152. Of Ointment of resin . . . 1 oz
Oil of turpentine. . . . ½ oz. Mix.

Over these warm flannel.

So long as no bad smell or profuse discharge ensue, these may be retained. When to be taken off, great care is necessary, not to bring the skin with them.

The constitutional treatment must be adapted to the state. If the collapse is urgent, stimulants, hot brandy-and-water—beef-tea—ammonia—the ethers, &c.

If less severe collapse be present, the stimulant and supporting plan must be modified accordingly.

Opium is forbidden by many—on account of its tendency to add to congestion in the brain—but if there be much pain, opium cannot be dispensed with, and must be given. To children, 20 to 120 drops of compound tincture of camphor may be given, according to the age. Mr. Travers says of opium, in these cases—in small doses it is inefficacious—in large ones injurious and dangerous—coma would contra-indicate opium—but when coma is present, the sufferer is likely to die.

In the fever that follows, the bowels must be kept gently open, and the diet must be unirritating; but not too low.

If inflammation or congestion take place in head, chest, or abdomen, we must treat accordingly. *See* INFLAMMATION of those parts.

Tenderness on right side, in the liver region, or vomiting, may indicate irritation or ulceration of the bowel, into which the stomach leads—here farinaceous and mildest diet with 2 or 3 grain doses of mercury with chalk powder and some 2 grains of henbane powdered, two or three times daily.

The ulcers which are left are often very difficult to heal—but it is supposed that too stimulating a diet is often kept up to restore the strength; and thus irritation is induced, rendering the ulcers more difficult to cure.

There are various applications to ulcers—when the discharge is profuse, very finely powdered chalk should be sprinkled over the ulcer. An ointment of carbonate of magnesia is useful.

But after all these dangers have been happily got through—the scar or cicatrix left after the burn has to be *dealt with*. This cicatrix becomes hard, dense, and *cartilaginous* (like gristle) and it is apt to contract, so as to

occasion the most distressing deformities and difficulties—nor will repeated operations remove the tendency, even when every portion of the contracting texture has been cut away.

This tendency to contraction would seem to depend on the structure of the portion replaced. The cuticle or outer skin covering the cicatrix is very thick—thicker than the healthy cuticle—this is the chief difference between the healthy cuticle and the replaced cuticle—but there is a material difference in the deeper-seated true skin, as it may be called. The replaced true skin is composed of an exceedingly thick, strong, and inelastic band of fibrous tissue—in which only the smallest trace of the existence of the curly fibres of the yellow elastic fibrous tissue can be traced by the microscopist.

It is this latter element of the fibrous tissue of the healthy true skin, which gives it its great elastic property—whereas the cicatrix after a deeper burn is composed entirely of a dense interweaving of the fibres of the white inelastic fibrous tissue.

The author has had to treat some frightful cases of these contractions; where the forearm has been gradually drawn up to the arm, and the limb rendered useless in one who had to labour for her bread—and this, notwithstanding she had the intrepidity to undergo three painful and tedious operations, in the days when chloroform was not used. In another case of burn of the whole of the forepart of the neck, the angles of the mouth were drawn down, and the chin, until the latter was fixed to the chest. These accidents happen to cottagers' children for the most part, who are left in a room with an open fire, without any guard—yet a guard might so easily be provided.

The contraction may sometimes be successfully opposed by keeping up extension with a splint, or, in case of the neck-burn, by a stiff collar, and by frequently moving the part during cicatrization—the scar being frequently lubricated with oil. If the fingers are burned, lint should be interposed between them—though they will still often adhere together. In burns of head or face—the edges should be drawn asunder by strips of adhesive plaster.

Still, in spite of all, contraction occurs—then the surgeon's knife must be resorted to—and even this is inefficacious—unless the operation lately recommended by Dr. *Mitter, in America*, can be performed—of dividing the

cicatrix, dissecting it up wherever adherent, and dividing muscular fibres when necessary, and then filling up the gap with sound skin, by what is called the Taliacotian operation, that is, by transplanting a portion of sound skin from some neighbouring part.

Cold.—Frost-Bites.—Chilblains.

A person, exposed to an intense degree of cold, and if that cold be accompanied with wind, which, as it passes, robs the body rapidly of its heat, and if the person be moreover exhausted by hunger, fatigue, or by watching, will first feel an irresistible desire to sleep, and the sleep terminates in death.

Great congestion in the veins is thus produced.

In a frost-bite, the part becomes of a dull red colour—and then the part becomes lividly pale, insensible, motionless, and much shrunken. There is no local pain to warn the sufferer—and in cold climates a frost-bitten person requires to be told, that his nose, &c., is dead.

Now, a frost-bitten part may either mortify without any signs of inflammation having arisen, or inflammation may arise, which becomes too violent; and so cause gangrene.

The degree of cold requisite to induce frost-bite, must be 10° below the zero of Fahrenheit's thermometer.

The power of resisting cold, depends in a great degree on the temperament. The soldiers of France and Italy bore the cold of Russia, when fighting under Buonaparte, better than did the Dutch and other inhabitants of cold climates.

Treatment.—Frost-bites should be rubbed with snow—then with cold water—in places not heated by fires. If this be judiciously done the part recovers, with only slight swelling or tingling in the part, perhaps the formation of vesicles, with a scaling off of the scarfskin. The part remains, however, weaker and more sensible to cold than before.

To combat the sleepy or comatose state—we should rub with snow—then, after sensibility is restored, with dry *flannel*. Put the sufferer into a bed in a room not heated *by fire*, throw up a lavement of water and salt, and of

oil of turpentine, and give some wine and water, as soon as the power of swallowing has returned,

After these, mild cordials and nutriment. The great indication is to avoid inducing too high an action—inflammation in short.

If a frost-bitten part be injudiciously and suddenly exposed to heat in any shape—gangrene is almost sure to follow—and the part may become black and dry in a very short time.

The best treatment here, would be by applying snow or cold water—and then evaporating (spirit) lotions. These may prevent the gangrene, and if the gangrene be already formed, they should be used as long as the mortification seems to be spreading.

Then poultices, and stimulating ointments must be resorted to.

Chilblains occur readily, when a part previously very cold is exposed too suddenly to heat—it is an inflammation without power of resistance in the part.

They may be classified according to degree, into a kind with the skin red, and slightly swelled; more or less of itching, tingling, pain, and lameness—a second kind, comprises those attacks attended with vesications, and and a bluish or purple skin—and a third, in which there are ulceration and mortification.

The toes, hands, nose, and ears are most frequently attacked—and women, children, and persons of languid circulation are the greatest sufferers.

Treatment.—In all the degrees the writer has been, he may say, uniformly successful by applying iodine—if applied to, early enough. He employs a tincture of iodine, 30 or 35 grains of iodine to an ounce of alcohol.

To an ounce of this, he adds 10 grains of cyanuret of potassium. With this the part affected is painted over by means of a camel-hair brush, or feather end of a quill.

This application, however, must not be made over any part of the skin which is ulcerated—only on the skin surrounding the open part.

The itching and swelling are speedily reduced—even by a very few applications. These applications should be made not oftener than once at bedtime, and, perhaps in some severe cases, once again in the morning.

The stimulant applications, which have been recommended are numerous. Six parts of soap liniment with

one of tincture of cantharides—mustard, turpentine, camphorated spirit, ammonia—frictions with new brine—and opiate applications have all been in turn strongly commended—but the iodine is the best application.

When there are vesications, do not break them.

For ulcers or gangrene, with heat and pain—poultices are requisite; then, after a time, stimulating ointments or lotions—as the zinc ointment, and others of the same class.

Diseases of the Heart.

Palpitation.

This disorder is characterised by strong, sometimes violent and tumultuous movements of the heart—so strong as to be felt and heard by the patient, or seen by those who are near at the time.

A feeling of anxiety and distress, referred to the region of the heart is usual—and sometimes fainting ensues.

Causes.—Females are more disposed than men—yet a good many men suffer, who are of nervous temperament, or who have been subject to nervous diseases, hypochondriasis, melancholy, epilepsy—debility predisposes strongly.

The exciting causes, it is important to know—for our treatment must depend to a certain extent on such knowledge—some of the exciting causes being curable.

Strong emotions, joy, anxiety, fear, sadness, anger, &c., —violent exercise. Debility, whether caused by exhausting diseases, or in any other way—excessive loss of blood, or great increase of natural discharges—abuse of purgatives—bad diet—abuse of intoxicating drinks—want of sleep—deep concentration of thought—dissipation of all kinds—excessive use of all kinds of pleasure—confinement in an impure air, or in close or crowded rooms.

Chlorotic females suffer much from palpitation. Spinal irritation it frequently accompanies; when there will be several other symptoms to point out the constantly acting cause—viz., pains in the back, shooting forwards or downwards, or in various directions—and they may be increased, together with increasedly violent palpitations by *tight stays, &c.* Pressure, or gentle tapping with the

knuckles, will often point out the disordered point of the back. This kind of palpitation is common in females between the ages of fifteen and twenty-five.

Palpitations, which often set in previous to, or after the commencement of the monthly periods, will again appear in females, about the period of the cessation of this periodical monthly discharge—and they will attack those who labour under diseases of the womb, breasts, ovaries, or who are suffering from some wearing chronic ailment.

Persons may suffer for years from palpitations, without any sensible effect for the worse appearing—but so violent an action of the heart, as may be witnessed in these fits of palpitation, does not continue for many years without inducing some organic changes in the heart, which may become much enlarged in its substance, and more and more violent in its impulses; while, at the same time, the disturbed heart's action may set up congestions, or determinations of blood to various organs—from which congestions diseased states spring forth, under which life sinks overpowered.

In all nervous palpitations, the urine is frequently copious and of a pale colour—and the heart is usually quietest, when the sufferer is taking exercise in the open air—or the mind is fully occupied.

Indigestion is, perhaps, of all causes the most frequent, and some patients are never troubled with flatulence, without a violent attack of palpitation, with possibly an intermittent pulse, following the dyspeptic state.

Palpitation is also one of the early symptoms of pulmonary consumption.

Simple palpitation without organic disease, may be distinguished from that attending organic disease—by the complete cessation of all distress, after the fit is over.

Treatment. — This must vary with the state of the patient. In very full-blooded individuals, bleeding from the arm may be necessary, and cupping or leeching afterwards—then lowering or nauseating doses of tartar emetic, one-eighth or a quarter of a grain, three or four times a-day—but vomiting must not be excited, if avoidable—digitalis, or foxglove, or hydrocyanic acid should be given.

The local applications are plasters of opium, belladonna, henbane, or hemlock.

Low diet—*repose* and quiet—both of mind and body—*and aperients are requisite.*

But palpitations in the nervous, delicate person demands very different treatment—here preparations of iron, a nourishing diet—tonics—change of air and scene. With these tonics, we must combine sedative medicines, which frequently are followed by very beneficial effects.

No. 153. Of dilute sulphuric acid . . 10 to 15 drops.
Tincture of opium . . 5 drops.
,, of digitalis . . 5 to 12 drops.
Infusion of gentian . . 1 oz.

Two or three times a-day.

No. 154. Of Carbonate of ammonia . 5 gr.
Tincture of opium . . 5 drops.
Camphor mixture . . . 1 oz.

Or this:—

No. 155. Of Spirits of sulphuric ether 20 drops.
Tincture of opium . . 5 drops.
Carbonate of ammonia . 3 gr.
Syrup . . . . . 2 dr.
Water . . . . . 1 or 1½ oz.

No. 156. Of Chloroform . . . . . 20 drops.
Tincture of foxglove . . 10 drops.
Syrup . . . . . 1 dr.
Distilled water . . . . 1 oz.

To be taken directly the palpitation comes on.

Other prescriptions can be given, of similar character; but when palpitation accompanies disordered stomach, the patient should never be without the following drops:—

No. 157. Of Tincture of cardamoms, Spirits of ammonia (sal volatile), Liquor of potash . . . } of each ½ oz.
Tincture of opium (unless opium usually disagrees, then omit it) . . . . . 60 drops.
Hydrocyanic acid (of the Pharmacopœia) . . . 12 drops.

Keep this in a well-corked bottle and in a cold place, wrapped up in paper. The dose is a teaspoonful in water or mintwater, or camphor julep, and syrup may be added, to taste at the time of taking.

One great object is, to assure the nervous sufferer, if we

can truthfully do so, that there is no fixed heart disease—and that she, or he, may live for years, and need not be expecting the moment to arrive, when she may be cut off by sudden death. Nothing tends more than this assurance will, to relieve the mind of gloomy apprehensions. The mind and body should be kept quiet—for any violent agitation of the one, or exertion of the other, is sure to aggravate the mischief—and many a sudden death has been caused from violent mental emotion, when there has been organic disease, as well as from bodily exertion.

Several applications of a sedative kind will sometimes tranquillize in a great degree:—

No. 158. Of Soap liniment . . . . . 20 oz.
Extract of belladonna, or of aconite . . . . . 1 dr.
Cyanuret of potassium . . 10 grs.

Rub two teaspoonfuls of this over the cardiac region—and repeat according to circumstances.

Chloroform may be applied also:—

No. 159. Of Chloroform. . . . . 2 drs.
Soap liniment . . . . . 2 oz.

Mix. Rub in a dessert-spoonful once or twice, during the palpitation,

The belladonna plaster has been serviceable. It is made by melting in a water-bath, extract of belladonna and soap plaster, of each three drachms.

Some have been frightened by an intermittent pulse—but intermission of the pulse often attends, while the person is perfectly in health; and the pulse becomes regular, only when disease is set up. Others, again, are alarmed by a pulsation at the pit of the stomach which resembles aneurism—and which has sometimes deceived medical men. This pulsation often depends on indigestion; and a gas-distended state of the large bowel, which runs across the body from right to left, just behind the pit of the stomach—and we may often remove the pulsation by a single effective purgative.

Darting Pain, or Neuralgia of the Heart.

This darting pain does not affect the breathing nor the *circulation, as the disease* called angina pectoris does—nor

is it accompanied with the pain, which shoots to the arms and down to the fingers in angina pectoris.

This is a nervous pain—and is more frequently dependent on indigestion, than on anything else. Strong tea has been supposed to have brought it on—when it has been drunk to excess. The treatment is similar to that for palpitation.

Structural Diseases of the Heart.

These are very important, and demand the most energetic and judicious measures to be adopted without delay. But no one but medical men can correctly make out the exact site and nature of these diseases—for auscultation by the stethoscope is essential.

We will put down the chief distinguishing features—so far as that can be done without the stethoscope.

The first is inflammation of the bag in which the heart is contained—the pericardium—and its inflammation is called pericarditis.

Pericarditis.

This is generally connected with rheumatism.

Shiverings at first—then pain, more or less acute, under the left nipple, and towards the lower part of the breastbone—this pain extends towards the left armpit and arm, and down the left arm to the elbow or wrist. The pain may be darting, or else dull—and some complain not so much of pain as of a feeling of oppression. When it is present, deep pressure between the ribs, close to the breastbone, will increase, or even cause it to be manifested, when no pain was previously complained of—lying on either side will increase the pain.

Violent and irregular palpitations are manifest on placing the hand over the heart.

Fever attends—a pulse full, frequent, hard, regular, and *jarring*, or it may be a small, irregular, unequal, and rapid one—there is great shortness of breath, with a sense of *terrible* oppression and restlessness, and a want of fresh *air*—the skin may be dry and hot, or bathed in sweat—the countenance pale, and expressing great terror.

Sighs, sobs, hiccups, convulsions—delirium on awaking from sleep—frightful dreams—or else, no sleep at all.

The breathing becomes more and more laborious, the countenance livid, the eye glassy, the skin covered with a clammy sweat—the agonizing anxiety increases, until death frees from further suffering.

This disease may terminate in recovery—or in a chronic form of the disease—or in death. But complete recovery is rare—for the two surfaces of the membrane lining the heart, and the interior of the bag, may throw out fluid, forming dropsy of the pericardium, or they may adhere to each other—thus forming a heavy drag on, and impediment to, the future free movements of the heart.—*See* CHRONIC PERICARDITIS.

Causes.—Predisposing—hereditary tendency to gout and rheumatism. The male sex—age from twenty to thirty.

The exciting causes are cold, and, as already has been said, the extension or the translation of the rheumatic or gouty action to the heart.

Treatment.—This should be as vigorous as the foe is dangerous to life. The inflammation must be subdued as soon as possible; after which we must promote the absorption of effused matters.

If the patient be strong, bleed from the arm to the extent of as many ounces of blood as can be borne without fainting—then cupping or leeches—but if the patient have been debilitated, or lowered by the preceding rheumatism or gout, then cupping or leeches, and no blood from the arm.

Give directly these powders, until the gums become red and tender, and begin to swell—with foul breath:—

No. 160. Of Calomel . . . . . 3 grs.
Opium . . . . . ½ gr.
Or of Dover's powder . . 5 grs.

Every second or third hour. If the powders purge, give more opium, or some of the astringent medicines recommended in DIARRHŒA—the object being to prevent the mercury from running off, as it is called, by the bowels—for then it will not act specifically against the inflammation.

Tartar emetic, a quarter of a grain, may be added to each powder *with benefit.*

If rheumatism be present, some tincture of colchicum seeds. Twenty drops may be given every four hours.

The diet must be low.

A blister to the chestbone—and the vesicated surface may be kept open by dressing it with savin cerate.

Chronic Pericarditis

This generally follows the acute—and similar symptoms are present—difficulty of breathing—palpitation—uneasiness, or slight pain in the heart's region—the person lies only on the right side—low fever, or hectic—debility.

A serous fluid is effused into the bag.

Treatment.—Cupping and leeches—blisters with calomel and opium, as above stated. If rheumatism be severe, give the colchicum as was advised—if debility prevail, a more generous diet, with ammonia, alkaline bicarbonates every three or four hours, will be proper.

Water in the Pericardium.

The signs of this state are obscure—weight or oppression in the region of the heart is complained of—there is difficulty in breathing, and the sufferer is obliged to sleep in a sitting or erect posture; for, if he attempts to lie down, he feels as if he were about to be suffocated—the face becomes of a dusky, livid, or bluish hue—there is a tendency to faint—the ankles swell—and the pulse is frequent and irregular.

Now the causes of this effusion have been, either inflammation or some mechanical obstruction to the circulation of the blood through the heart and lungs.

Treatment.—The ordinary treatment pointed out in dropsy must be followed here. We must give both sharp purgatives to bring away the serum or water; and we must resort to diuretics to get rid of it, through the kidneys.

Elaterium is one of the most active expellers of watery motions we can employ—its great drawback being the distressing sickness which so often, and in some cases invariably follows it.

Still, such are its effects, that many patients bear the suffering of sickness in order to have the water expelled.

A quarter of a grain, with a little opium, or a drop of creasote—or a drop of hydrocyanic acid—should be given, and repeated according to effects.

Cream of tartar is another good remedy—half an ounce or more, in the course of every day, mixed with ginger and sugar, and plenty of water.

Epsom salts—half an ounce, with a drachm of tincture of jalap, once or twice daily, will procure watery motions.

Diuretics are of various kinds.

No. 161. Of Acetate of potash . . 30 grains.
Spirits of nitrous ether 40 to 60 drops.
Infusion of horseradish or of broom . . . . 1½ oz.

Three or four times a-day. A pill at night.

No. 162. Of Blue pill,
Compound squill pill,
Compound soap pill, of each 20 grains.

Make 12 pills. Two of these to be taken every night.

Inflammation of the Heart.

The inner membrane is here inflamed—and the signs are those common to heart diseases—anxiety—oppression—and fainting—no pain usually—skin hot and dry—thirst—restlessness—fever.

The heart's action is violent and irregular—the pulse may be small, feeble, and intermitting in some cases.—The anxiety, restlessness, difficult breathing, all become very distressing—and the face quite livid.

Treatment.—When this serious disease is not fatal—it may leave behind it, deposits on the valves of the heart—which, in course of time, prove very embarrassing—and abridge the sufferer's life.

The treatment may be gathered, from what has been said in acute inflammation of the pericardium—bleeding, either general or local, and repeated according to necessity—cupping—leeches—the warm bath—rest—the calomel powders, so as to touch the gums—issues or setons.

Diseases of the Valves of the Heart.

To distinguish disease of the valves, and more especially *to distinguish* which valves are affected, requires a

knowledge of auscultation—and the general symptoms all resolve themselves, into such as arise from the impeded circulation of blood through the heart—and from the effects of this impediment—namely, a dropsical effusion—the dropsy appearing first in the legs—but afterwards in chest or belly.

Treatment.—We must regulate our treatment by the varying states of the patient—but our treatment must be gentle—and there is no occasion here to try and salivate—for inflammation has disappeared some time.

In some cases of urgent dropsy—the writer has relieved wonderfully for a time by acupuncture—which means, introducing needles into the dropsical swelling, at different points.—If the needle-point be introduced in a rotatory manner, no pain nor annoyance will be felt—when the needle is withdrawn, a drop of fluid appears—from each puncture—and in a few hours much fluid drains away, to the relief of the breath.

Enlarged Heart.—Hypertrophy.

Symptoms.—Palpitation, with a strong, upheaving impulse; the pulse will be full, strong, and frequent in one kind of enlarged heart—and it will be small in another.

Slight difficulty of breathing, increased on exertion—a good colour in the face,—in severe cases there will be headache, giddiness—flushed face—bright eye—and signs of blood being determined to the head—and discharges of blood from the nose, or from piles appear occasionally. As the disease advances, there may be a puffiness of the face; and the swelling extends to other parts.

Causes.—Violent and straining exertions—too great fulness of the bloodvessels in the body—emotions of the mind—long-continued palpitations—certain chronic diseases of the lungs.

Treatment.—This disease may continue a long time.

Perfect rest of mind and body must be enjoined. According as the attending signs require, the diet should be spare—and blood may occasionally be taken away to relieve difficulty of breathing, or to diminish the great *impulse* of the heart.

Sedatives are useful.

No. 163. Of Bicarbonate of potash 20 grains.
Tincture of opium . 5 to 12 drops.
„ of digitalis (foxglove) . . . 5 to 10 drops.
Distilled water . . 1 ounce.
Two or three times a-day.

Belladonna liniment, or plaster, will sometimes allay the inordinate action of the heart.

Atrophy of the Heart.

As enlargement proceeds from an increase of substance of the heart—so this atrophy depends on a thinning of its fibres. The heart's pulsations are small and feeble—and the upheaving or impulse is weak and feeble to the hand. —Great tendency to fainting.

Causes.—The male sex predisposes—age about 50—habits of intemperance—exhausting diseases.

Treatment.—Nutritious diet—tonics, steel, infusion of gentian, quinine, or stimulants, sal volatile, ammonia, &c.

There is no cure—so we must watch most carefully, to prevent mischief.

Dilatation of the Heart.

Here the cavities called the ventricles are dilated, and the symptoms are those indicating difficult transmission of the blood through the lungs and heart.

It is caused by debility, by diseases of the lungs, and by long-standing valvular disease.

Treatment must be adapted to the predominating state; if there be much fever or excitement, lower the system cautiously by gentle aperients, a modified diet, diuretics, and saline medicines—but if debility prevail, and the difficulty of breathing seem to depend on some debilitating cause—then support with a nutritious though non-stimulant diet—allowing wine, if it seem necessary.

Rest and quietude are indispensable adjuncts to treatment—and, in most heart diseases, the patient will do well so to arrange his dwelling, that he may have no stairs to ascend *or descend*, at any time.

The Blue Disease.

The colour of the skin, lips, and mouth, is blue—the skin is everywhere cold—there are fits of great difficulty of breathing, which seem very alarming—palpitation is frequent—feeble and irregular pulse—fainting on slightest exertion, or on the mind having been excited—dropsy, too, is an attendant. This state depends on the existence from birth of a communication between the two sides of the heart; which is usually closed up after birth, and which admits venous blood into the left side of the heart, without going through the lungs. The result is usually death during a fit of dyspnœa at an early age—though some cases are on record where the sufferers have attained the age of fifty-seven.

Treatment is obviously palliative—rest of body and quietude of mind—pure air—warm clothing—cautiously regulated diet—careful attention to the functions of the stomach and bowels.

Aneurism.

This is a sac filled with blood, and communicating with an artery—by the rupture or dilatation of which it has been produced—some disease of the artery has preceded. If it is situated on a limb, it appears as a pulsating tumour or swelling, in the course of an artery.

But it may be situated within the chest, near the heart, or within the belly—it there produces symptoms, characterized by signs of pressure on, or irritation of the neighbouring parts. The aneurism and its site are often very difficult to be made out satisfactorily—and the treatment is chiefly surgical. The subject is mentioned here, only to caution those who are so afflicted, or who have reason to suspect such a state—to maintain as perfect repose of mind, body, and of the part itself, as may be possible—to observe temperance and keep up a free state of the bowels—to meet urgent symptoms—such as difficulty of breathing, by a small bleeding—or to keep down palpitation, or too great an action of the heart, by giving of either of tincture of foxglove and henbane, or colchicum, ten drops *of the former*, and twenty or thirty of the latter, two or *three times* a day—and locally by belladonna plaster.

Belladonna liniment, or an embrocation of chloroform, as recommended in preceding pages; may be rubbed in night and morning; a teaspoonful of either.

Inflammation of the Veins—Phlebitis.

An inflamed vein, when superficial enough to be visible, appears to the eye, as if a knotted cord were running up the leg in the course of a vein—the line becomes red, and painful on pressure. The parts around swell—and if the attack be acute, fever soon makes its appearance, and of a typhoid character, too.

This fever is more particularly deadly in those cases of phlebitis which supervene, on injuries and wounds after childbirth, and after surgical operations.

After repeated shiverings, profuse sweats—coma—great debility and anxiety—a weak, frequent, often intermitting pulse—a yellow, muddy-coloured skin—profuse vomiting and purging—and speedy death. In other cases, symptoms are often very mild, and the constitutional affection is trifling.

The matter, in those instances of inflamed vein which follow wounds, childbirths, forms what are called consecutive or secondary abscesses; and they are situated variously—sometimes occupying a joint—sometimes the head, chest, or belly—in which event, we shall have delirium or coma, with fever, if the head is the chosen site—or we shall have difficulty of breathing and cough, if the chest; and pain or tenderness in the belly, if the belly.

The accompanying febrile symptoms are of deeply typhoid character, and rapidly run their course.

Sometimes the joints are the sites for the deposition of matter. Inflamed absorbents may be mistaken for inflamed veins in the limbs—but the vein feels like a large, hard and knotted cord, running in the course of the vein; while inflamed absorbents appear like hard, red lines under the skin, leading to a gland.

Causes.—A bad habit of body predisposes—scrofula powerfully disposes—or too low a state of the vital powers—wherefore, it is now very unusual to lower the powers of patients by bleeding, hasty meddling, &c.

Cold—and previous injuries, or surgical operations, or *childbirth, are efficient causes.*

Treatment.—We may hope for recovery when the case has been excited by cold, and has originated in a good constitution—but secondary abscesses are usually fatal, if they form internally—though they may be managed often when they form in the external parts or the joints.

We must adapt our treatment according to the state of the general symptoms. In mild cases, leeches in the course of the vessel may be applied—but the lancet must be avoided. Gentle aperients—salines—cold applications or warm fomentations to the part—whichever of the two may be most agreeable to the patient.

If the accompanying fever be inflammatory, the calomel, opium, and tartar emetic powders.

No. 164. Of Calomel . . . . . 20 grs.
Tartar emetic . . . . . 1 gr.
Opium, powdered 5 to 8 or 10 grs.

Mix and divide into ten powders. One three times a day, until the gums become tender. With these powders, saline medicines.

But if the fever be typhoid, then wine, brandy, ammonia, camphor, ether, &c., with opium at night. The constitution must be boldly supported, the more typhoid the symptoms are.

Sometimes calcareous concretions form in veins, by degeneration of the clots or coagulated blood within them.

These are called phlebolites; and must be removed by the knife.

Veins also become varicose, and cause so much swelling of the limb as to prevent walking—they cause ulcers to form, and a vein becomes thin, and bursts, when a hæmorrhage or bleeding ensues from the part; and even becomes fatal.

Treatment is either palliative or curative—the former consists of measures calculated to prevent further distension, and to induce contraction of the vein.

If one or two veins are affected, apply pieces of leather, spread with soap plaster, firmly over them; but if many smaller veins are enlarged, the whole limb should be supported with a calico or caoutchouc bandage, or with a laced stocking; which should be taken off every night on lying down, and reapplied every morning, before leaving the bed.

Friction with a flesh-brush, or with gloves, or with

various liniments, may help the cure; but the pressure in rubbing should be always in the direction of the vein.

The bowels should always be kept rather open—hard motions and the consequent straining are very prejudicial.

If in spite of all these the disease progresses, then the surgeon must take the case in hand.

RECTUM—STRICTURE OF.

This intestine is the lowest bowel in the body—and a mechanical obstruction in it is often a fertile source of distress. Stricture of the rectum has been divided into spasmodic and organic—the latter forming a permanent obstruction to the passage and expulsion of the excrementitious matter.

There are frequent and sudden calls to stool—two, three, or more, every day. The patient feels as if the bowel urgently required emptying; yet, after much straining, nothing but a little wind with mucus, or blood, can be passed; but every two or three days, fæcal matter in the shape of small pellets, of hard consistence, and in long, round, angular, or flattened portions, of small diameter, if soft, is discharged.

This state may last a certain time without much constitutional derangement. But, at length, the patient loses his appetite, and becomes pale, emaciated, and hectic.

The stricture is commonly situate at from two and a half to four inches from the outward opening.

Treatment.—This disease is, by many, left exclusively to surgical management; yet there are, doubtless, many cases where medical treatment is of the highest value. It is very probable, that a never-ceasing use of irritating purgatives, may have given rise to the first tendency to contraction or stricture.

The bowel has been kept constantly empty, and in an irritable state by the purgatives; thus depriving it of the natural dilatation, which is effected by the fæcal matter lying in, and passing through the bowel.

We may try gentle laxatives—such as castor oil, manna, cream of tartar, lenitive electuary, or the infusion of senna and gentian combined.

With these, lavements of unirritating nature—to wash out

the bowel. Mechanical dilatation by a candle or a bougie is often requisite; but the introduction of a bougie requires care and caution; as does also the gradual increase in the size of the bougie.

Fissure of Rectum.

This painful disease commences insensibly in some cases —more rapidly in others.

The passage of the stools is attended with heat and smarting—and as the fissure increases, with violent pain, which often continues for a long time, after every motion —indeed the pain may hardly cease at all—and it is often increased by coughing, by any exertion, or when making water.

On separating the lower orifice, while the patient is straining, a narrow cleft may be observed with its bottom red, and its edges slightly swollen and hard. A very painful spasm of the circular muscle of the anus is an accompaniment—and adds to the suffering.

Treatment.—Cure is usually effected by dividing the fissure—still great relief has been given, and a cure has been effected by remedial means. A belladonna ointment may be rubbed in externally, every night and morning—it should consist of sixty grains of extract of belladonna, and seven drachms of spermaceti cerate, or any simple ointment. Sir Benjamin Brodie objects to the use of belladonna, smeared on a bougie, or thrown up as a lavement—because when thus administered, it has acted injuriously on the brain. He gives aperients, to prevent hard stools —directs a bougie to be introduced before going to the water-closet; and orders an opium suppository at night.

No. 165. *Opiate Suppository.*

Of Powdered opium . . . . 1 or 2 grs.
Soap or spermaceti . . . 10 grs.
Mix, by beating.

Prolapse of the Rectum.

This is a bearing down, and protrusion externally of *the lower bowel*, after each motion.

Considerable hæmorrhage (bleeding) attends—so that

this disease is considered to be piles—until accurate examination of the protruded portion demonstrates the nature of the affection.

Treatment.—Here again the surgeon's knife is called into requisition—yet there is no doubt that much good may be done, by ascertaining the cause or causes which have originated the disorder, and by removing them.

All straining must be prevented, by giving gentle laxatives—attending to the diet—that it be unirritating, and not leaving a large residue, to pass through the bowel. When the bowel is down—we must return it by gentle pressure on the centre of the prolapsed part—but if this latter be too swollen, hot, and reddened—then apply a piece of muslin on the tumour, wetted with equal parts of tincture of opium and of sulphuric ether—and allow a rapid evaporation to take place. This Dr. Copland says, he has never known to fail—especially in the cases of children.

The general health must be attended to—and the secretions and excretions kept in as healthy a state as possible.

To give tone to the bowel, and prevent its descent—throw up cold injections into the rectum—each containing sixty drops of the tincture of muriated iron.

FISTULA IN ANO

Usually demands the surgeon's aid—but still much good will be effected by regulating the bowels, diet, &c.

GONORRHŒA.

The urine is secreted (formed) in the kidneys—thence it descends down a tube, called ureter, on each side, into the bladder—from the bladder it is discharged externally through a passage called urethra—the latter passage varying from eight to eleven inches in length.

This latter passage—the urethra—is often inflamed, and the disease is called urethritis. It is then very irritable, and there is much pain on making water. See page 156.

But there is a specific inflammation of this passage, *caused by contagion*, mostly from some impure diseased

woman—when a vicious or drunken man has exposed himself to it. This disease is called Clap, or Gonorrhœa—and its symptoms are, first—an itching at the external end of the passage—the itching becomes pain, especially on making water—and there is usually some swelling—then a discharge of a whitish colour, more or less thick, which becomes yellowish or greenish, if there is much inflammation.

Uneasiness and pain are felt along the course of the passage—and blood is sometimes discharged. If the uneasiness extend to the bladder, then the symptoms of irritable or inflamed bladder are added—or inflammation and abscess may take place in surrounding parts. The urine comes out in a smaller stream than usual.

Treatment.—Drink a tumblerful of water, or barley-water, five or six times a day—and if some eight or ten grains of carbonate of soda or potash be added—so much the better. Live low—no meat—and either fomentations or cold lotions, or cold water cloths to the part will be useful.

Keep the parts clean, and free from discharge—take an aperient every second day. After a few days, when the pain and scalding are diminished, take twenty to thirty drops of balsam of capivi, three or four times a day, in water, made into an emulsion with some powdered gum arabic. If these drops increase the pain—discontinue them—and treat as for inflammation. See page 156.

No exercise should be taken—rest is necessary to prevent local inflammation. If the discharge continues, after the pain and scalding are gone—try an injection, night and morning, of sulphate of zinc, thirty grains to a pint of water. The fluid need not be thrown far along the canal—four or five inches are enough.

For sudden pain at night, called chordee—or whenever it occurs, as in some cases it is a frequent attendant, and causes great distress—a draught of twenty drops of tincture of meadow saffron, and ten or fifteen of tincture of opium in an ounce or two of water, should be given every night, or even three or four times a day, according to violence or frequency of the attacks, for four or five days; taking care to prevent costiveness from the opium by an *occasional* aperient.

VENEREAL DISEASE

Also arises from contagion, and if neglected, may lead to great mischief.

A small pimple usually first appears on the foreskin, which becomes an ulcer—or an ulcer appears under the foreskin. This ulcer seems as if scooped out of the part—and has usually a hard, circumscribed edge.

Sometimes inflammation shows itself around the ulcer. A swelling of a gland in one or both of the groins may follow.

Treatment.—As soon as the ulcer is seen, put lint wetted and kept wet with water on it, and cover the lint with oilskin. Take five grains of blue pill three times a day—till the gums begin, or are about to swell or become tender. If these pills seem to act on the bowels, a quarter of a grain of opium should be added to each pill—the object being to affect the constitution with the mercury, and not purge the bowels.

If the bowels continue to be purged—discontinue the pills, and rub into the inside of the thighs, every night, sixty grains of mercurial ointment, until the gums show the effect of the mercury, then stop—use gargles to the mouth, and take sarsaparilla drink, or bitters mixed with camphor julep. Under this treatment the ulcer heals, and there may be an end to the disease.

But sometimes inflammation attends to a considerable degree—and, in some warm climates, is of a very threatening character, having a strong tendency to mortification.

In such cases, the inflammation must first be reduced—by poultices, or fomentations, or leeches—low diet—rest and purgatives (*see* INFLAMMATION and MORTIFICATION, Section IV.)

The swelling in the groin must be treated with cold lotion—and sometimes with leeches applied near the swelling—so as to prevent it from softening and forming matter; but if matter do form, it should be let out, and a poultice applied.

Usually, as the gums become tender, the swelling subsides.

In some constitutions, the poison is absorbed into the system, and what are called secondary symptoms follow—*viz., sore throat,* and ulcers in the throat—or dark, copper-

coloured eruptions on the skin. When this happens, a gentle mercurial course may become necessary; and the sarsaparilla drink must be taken—a pint a day.

Whenever a person is taking, or is under the influence of mercury—care must be added, to avoid catching cold.

Stricture.

It is necessary to mention this disease—which is a contraction, permanent or temporary, of one or more parts of the urethra, and may endanger life, by causing a total retention of urine in the bladder—requiring often an operation by a surgeon.

Symptoms.—The earliest symptom is the retention of a few drops of urine after making water—then some irritability of the bladder, causing the person to make water often in the night. The stream of urine is forked, spiral (corkscrewy), flattened or scattered—or it may come away even in drops.

If any error in diet be committed—if acid drinks, old or sour beer be taken, a spasmodic stoppage may occur—and no water be expelled at all—while the bladder is making distressing efforts. Stricture follows a clap, or gonorrhœa, sometimes.

There are two kinds of stricture in the urethra—the spasmodic, which arises suddenly, from error in diet or cold, and when the spasm goes off, the urine is expelled in as full a stream as usual in health. The other kind is the permanent, and in that case there exists a permanent obstruction to the flow of the urine—the urine always flowing out in a small and impeded stream — but sometimes a spasmodic state is suddenly superinduced upon the permanent stricture or obstruction: then great danger often arises, and nothing short of a surgical operation will relieve.

Treatment.—The spasmodic kind is to be treated by warm bath, rubbing in some liniment or ointment of belladonna, all along the passage underneath. A bougie must be tried to be passed through, while in the bath, but if it *will not* pass, do not persevere, or the part will be irritated.

A bougie is made of linen, rolled into a circular form

and dipped into wax, mixed with lard; it is flexible, and well adapted to pass all along the urethra.

In the permanent stricture, our reliance must be on the bougie, and a small-sized one must be passed (gently, so as not to cause pain) through the stricture (or obstruction), at first once a day, or once in two days, and allowed to remain for six or eight or ten minutes, and the time lengthened to half an hour, or an hour at last, or even longer. After the small one passes easily, try to introduce one the next size larger, in the same manner, until a full-sized one, No. 13, can be borne, and that will suffice.

Some persons can never make water without previously introducing a bougie; and if its use is left off, the stricture may return.

Care as to diet—nothing irritating—no acids, or sour drinks—all intemperance is dangerous—all excesses—all irritations. The bowels are to be kept gently open always; and the urine well diluted by water or barley water, and some thirty grains of carbonate of soda, or potash, will be useful night and morning or after dinner—or the effervescing draughts.

Enlargement of the Prostate Gland.

There is a gland situated at the neck of the bladder; and it may become enlarged—which generally happens in elderly people, and in those disposed to scrofula.

Clerks in offices, who lead a very sedentary life, often generate a predisposition to this disease, and the discharge called clap, sometimes causes this gland to enlarge.

The symptoms are, some difficulty in making water, with, perhaps, pain. This difficulty progresses as the gland continues to enlarge, and the bladder makes more and more powerful efforts, until it at last can retain but little urine—there is a sense of uneasiness or weight, low down in the perinæum (that part of the body on which we sit), and if a bougie, or any similar instrument be introduced, it will pass readily till it reaches to near the entrance into the bladder.

There are other modes of ascertaining this enlargement; but they require the practical knowledge of the surgeon.

Treatment.—Generally, all we can do is, to remove *irritation or inflammation*, (if either exist,) by warm baths,

leeches, and fomentations to the perinæum—and to keep the urine *as unirritating as possible*, by the alkalies and diluting drinks—twenty grains of carbonate of potash or of soda, every night and morning, in a tumblerful of water, will prove serviceable. The diet must be carefully looked to.

The writer was called to an elderly man, who had been a barrister's clerk all his life, and who was in a comatose state, from the urine having been retained too long, without a surgical operation. He had for years suffered from enlargement of the prostate gland, and the fatal attack was brought on by his incautiously drinking only one glass of old beer—which was rather sour. Spasm was added to the mechanical obstruction, which always existed. No operation was proposed till it was too late to save life.

The barrister, with whom this gentleman had lived many years, as clerk, died also from this disease. Sedentary habits, in both, were the causes in action.

Men so affected must take care what they eat and drink

SECTION V.

DISEASES OF WOMEN.

It is proposed here to describe and treat those diseases peculiar to the female sex, and which have not been described in the preceding pages.

We must bear in mind, that women are endowed with great susceptibility to nervous excitement; and that, although we must treat fevers or inflammations occurring in them, on the same general principles as those which have been laid down—namely, those of lowering action in the usual way, or of supporting, when support may be necessary—still, we must not forget that they do not bear active measures of a certain character, so well as men—and that although there may often be a show of high and threatening inflammatory symptoms, yet there is a want of sustaining power, which will prevent bloodletting and other exhausting means being recovered from, so rapidly as in the parallel case of the male.

Cancer in the Breast and Womb.

This fearful disease has been treated of in the preceding section, as far as general principles are concerned.

And first of cancer of the breast:—

It commences generally as a hard, circumscribed, moveable swelling in the breast, which is so painless as to have escaped attention, until discovered by accident. After an uncertain time it increases in size, and the circumferential outline is irregular. And now the most distressing symptom of all is complained of—namely, peculiar violent darting pains, which occur in fits or paroxysms—and more violent at the time of the monthly period.

This pain is so unfailing an attendant on cancer, as to be considered almost a diagnostic or distinguishing characteristic. Still there are exceptional cases (probably very rare ones), in which there has been no pain, throughout the *progress of the disease.*

The writer can testify to this; and also to the universal surprise and, he fears, concealed incredulity, with which his description of the painless case was received.

The nipple sometimes bleeds a few drops—and generally with local relief. And now the cellular texture around the swelling diminishes—so that the diseased breast becomes smaller than the sound one, while the nipple is retracted or drawn in, and the skin around it, puckered.

In some cases, this deposit of cancerous matter is general throughout the gland, and the whole breast becomes a hard mass.

The swelling next forms an adhesion to the skin above, and to the muscles below the tumour; it becomes fixed and immovable. Then it ulcerates, and becomes open cancer.

The glands in the adjoining armpit, and sometimes those in the neck, enlarge; and hard lines, like cords, can be felt under the skin, running from the tumour to the glands. The bulk of these glands presses on the bloodvessels in the armpit—causing obstruction to the circulation of the blood in the arm—whence the swelling, as if from dropsy, of the arm.

The cancerous action spreads to the ribs, and to the chest—fluid is formed—and difficulty in breathing is added.

The flesh wastes away—and the sufferer at length dies exhausted. According to Sir Astley Cooper, cancer required from two to three years to attain its full growth—and life was usually destroyed in from six months to two years afterwards.

But instead of a tumour, there may be felt around the nipple little knobs or tubercles, which extend to the skin of the head, neck, and shoulders, and soon become painful. At first they are of a red colour—then a yellowish transparency occurs in the centre, and then they do not form pus or matter; but they break, and change into a corroding ulceration.

The discharge from cancer, in every form, is very fœtid.

No injury, or bruise, &c., is necessary to set this dreaded virus into action.

It becomes of great importance to make out decidedly, *whether* a tumour in the breast is cancerous or not—for *many* are very hard—as hard as scirrhus, and yet are not *of malignant* nature—but a stony, hard, moveable swell-

ing, in its early stage, and the shrunken gland, and drawn in nipple afterwards, are the signs of cancer. The age about forty—the sallow complexion—the weakness and bad habit of body—the darting pain; and the history of the patient's mother or sister having suffered, will assist us in forming our opinion.

Still there are sources of fallacy against which we must guard. The cancerous deposit may be attended with common inflammatory action in the parts surrounding; then pain, tenderness, and swelling will be complained of—while the usual well-marked outline and hardness are no longer visible—and we may suppose the case to be merely one of chronic inflammation.

Then, again, cancer may occur earlier than at the age of forty; and also our remedies may so reduce the swelling as to make us fancy that the scirrhous, cancerous deposit has been removed. Of treatment, we have spoken in the former section—and little satisfaction can we expect from the curative influence of medicines—still, nature, in some few cases, allows of a prolongation of life—and the cancer cells may, from some unknown cause, cease to propagate—when the growth would shrink, leaving a punctured cicatrix or scar—or the cancer-cells may undergo a fatty degeneration—or the cancerous deposit may, like the tubercular, undergo a change into a chalky or putty-like mass, with the skin puckered over it.

Many a large, hard swelling has been mistaken for cancer—and the error would be of little consequence, if caustics of all kinds were not being continually applied, to the exhaustion and discomfort of the sufferer.

Treatment.—For the local treatment, pressure should be steadily persevered in; and if this cannot be borne, Dr. Arnott's intense cold should be tried—and this cold seems to act both in producing a local anæsthesia or prevention of sensibility to pain, and in checking the progress of the tumour.

The extirpation of the tumour will be alluded to, after the description of cancer of the womb.

As to cancer in the womb, there is considerable chance of making mistakes. There is one polypous growth, called cauliflower excrescence, which is confounded with cancer—but any of the kinds of polypi in the uterus may by their exhausting discharges produce such general symptoms, as would give rise to the suspicion of the presence

of cancer—though the local symptoms do not correspond.

To attain the nearest approach to certainty, the medical man must use an instrument called a speculum, which enables him to see the neck of the womb; whilst others can only guess that there is cancer at its destructive work, when a variously coloured discharge takes place from the vagina—which discharge is singularly fœtid—indeed, so peculiar, that many a surgeon recognises almost at once by it, the foe he has to deal with. Besides this discharge, there are the characteristic darting pains—which have been already alluded to.

Refer to the article on the WOMB and its POLYPI.

Induration, or hardening of the neck of the womb, has not unfrequently been mistaken for cancer—especially when pains have been present—but the pain is not of the darting kind, which so invariably characterizes cancer pains.

Treatment.—The general treatment has been mentioned, and the iodide of arsenic, in doses of one-sixteenth of a grain in a pill, two hours after dinner, and also twice a day—that is, in all, three times a day—is the remedy most relied on by the best authorities—taking care of the bowels and of the secretions generally—by occasional aperients.

The digestive functions must be kept in order by the infusion of gentian, with twenty grains of bicarbonate of potash once or twice a-day, between the pills.

For the pains, morphia must be given with the pills—a quarter to half a grain or more in each pill, according to the influence they seem to exert—taking care not to do more than deaden the pain—and not to cause constant drowsiness. Some recommend henbane, belladonna, or hemlock, for this purpose.

The smell from the discharge is so offensive, that injections must frequently be gently thrown up—the best is the following:—

No. 166. Of Sulphate of iron . 20 grs. or more.
Distilled water . ½ pint.
Mix.

For an injection, a fourth part to be thrown up at a *time,* and as often as may be necessary. If it cause *pain,* warm the fluid—if still painful, add extract of hem-

lock, ten grains to the half-pint, and mix well by rubbing all together in a glass mortar.

The chloride of soda is strongly recommended for this purpose, and may be thrown up frequently. The formula is this :—

Injection of Chloride of Soda.

No. 167. Of Solution of chlorinated soda, made according to the London Pharmacopœia . 1 oz.
Distilled water . . . . . 16 ozs.

As to excision or cutting away of the breast, or of a portion of the diseased neck of the womb, opinions have been much divided. Mr. Vincent says, "The removal of unequivocal cancerous disease does not prolong life." And Dr. Walsh says, "Excision cannot be undertaken without imminent risk of putting the patient in a worse state, than he or she was in, before the use of the knife." Nevertheless, instances have been known of the disease not recurring after excision—and others where life has been prolonged by the excision of an actively progressing cancer—while, thanks to chloroform, the operation may be painless.

Mr. Druitt seems to the writer to give the best directions, when he says, "An operation may be proposed to the patient (who should of course be informed of the precarious chance it affords) if the disease is movcable and circumscribed, so that it can be cleared away by an operation with the knife. If, however, the skin is extensively tuberculated, and adherent to the scirrhus—if the surrounding fat and cellular tissue are implicated—if the tumour is firmly adherent to the parts beneath—if it is extensively ulcerated—or if the original disease is much less in degree than the co-existent scirrhus of the adjoining lymphatic glands—or if the patient's health is fast sinking —or if there is any palpable internal disease, the operation should not be attempted."

A bleeding offensive mass may be thus got rid of, and an operation justified, even though cure is out of the question. Excision may be effected in three ways—by the knife, and every part must be carefully cut away—by caustic, in flat cancerous affections of the skin—or by a *ligature.*

Preparatory treatment is requisite before, and care after the operation.

Bladder—Falling Down or Prolapse of.

This descent of the bladder from its proper site, may take place in various degrees. In extreme cases, the writer has seen what would have been thought the whole of the bladder protruding between the thighs.

The symptoms attending it are those resulting from irritation of the surrounding parts—pain, with bearing down—a discharge of whitish colour from the vagina. As soon as the bladder has emptied itself, a sensation of ease will succeed.

There is a strong desire to make water during the night; and while in the horizontal position.

Both the womb and the bladder may fall down from their natural position—and they may remain in the vaginal passage, or they may protrude from the body—the womb must be distinguished from the bladder, by the orifice or mouth, which is at the lower part of the womb. The stomach, too, is said to sympathize more with the womb than with the bladder—and nausea, vomiting, heartburn, are often present when the womb is prolapsed, and absent when the bladder is alone affected.

The only safe mode of distinguishing is, by an accurate examination of the protruding part.

Treatment.—As relaxation of the passage (the vagina) is usually the disposing cause of this prolapse—it is often met with in women who have had large families—and when to this relaxation of the passage, violent straining efforts are added, as in hard stools, or in violent coughs, this descent of the bladder is not improbable. Our indications of treatment are obvious—to give tone to the part—to avoid straining efforts—and to apply some mechanical support.

The injection of sulphate of zinc, and of alum—thirty to sixty or more grains of each, may be dissolved in a pint of water—and a portion thrown up two or three times a-day. The oak-bark decoction may be substituted for water.—Then, a pessary should be introduced to support mechanically—its form may be oblong or globular, and the former *is best* borne.

The patient must herself discover, what size and shape

will best suit her—and the instrument must be occasionally gently withdrawn to be cleaned, and so returned. The zinc injection should be continued all the time.

In some cases of married ladies, the pessary must be in form of a ring—or oval—for obvious reasons.

The Prolapse of the Womb.

Here we have pains in the back, a sense of distension, or of the presence of some foreign body in the vagina; a white, or more or less coloured discharge is added; the stomach suffers by sympathy, a sense of bearing down, and a frequent desire to make water; as if the bladder were affected. Now these two last symptoms are relieved by the horizontal posture, and are increased in the erect; whereas, in the case of the bladder, the bearing down, &c., are increased when in the horizontal posture.

Local relaxation occurs, and the bloodvessels, in some cases, pour forth blood which might obscure the case, and make one suspect simply profuse menstruation—that is, if no examination be made. This disease, if unchecked, may cause great mischief, and the womb will at length ulcerate, after long exposure to the air.

Treatment.—The strength must be supported by the usual means, and all that seems wrong in the system, should be corrected.

The local treatment is important; the injection of sulphate of zinc and of alum should be perseveringly used, made as strong as can be borne without pain; but the common uterine syringes of pewter, &c., are of little use. (*See* the article, Whites.)

But before we resort to these astringents, we should reduce any tendency to local fulness or excitement, by giving rather low diet for three or four days; gentle laxatives, by enjoining rest in the recumbent position for a few days, and by calming the system.

Then the patient, having emptied the bladder and the rectum, must lie on the bed with legs and heels raised, and legs bent on the body; and if she cannot obtain a medical man's assistance, she may be able to help herself by putting back the womb with a gentle, though continued pressure on the centre and lowest point of the prolapsed part.

If much pain ensue, and the womb has been long down, or is protruding forth of the body, further attempts must be desisted from; and the patient may rest satisfied if she has succeeded in placing the womb within the body; thereby preventing much annoyance, ulceration of the part itself, &c.

In minor cases of prolapse, when the womb lies down on the floor of the perinæum (the lower part of the body on which we sit), the part may be replaced readily enough; but it would again fall down, when the patient leaves the recumbent position. To prevent this, it is necessary to place some mechanical support in the passage; and this is called a pessary.

Pessaries are of various sizes and forms; some are circular, others flat oval, others globular or oviform, and they may be made of vulcanized caoutchouc, or of box-wood.

Many experienced practitioners object to pessaries, and no longer use them; and the writer can, against such a weight of authority, only mention his own limited experience; but that has been so much in favour of them, that he does not hesitate to advise their use. That there are cases in which a pessary cannot be worn without great pain and inconvenience, he is aware; and also, that much annoyance may result, from not occasionally removing the pessary, cleaning it, and replacing it the next morning, before rising from the recumbent position—while advantage might be taken to syringe the parts well, when the pessary is not worn.

Still there are many, he would say the majority of cases where pessaries are of the greatest service. He recollects one instance of a lady, the mother of a large family, who seemed to be in perfect, almost robust health—yet never could walk above a hundred or two of yards, without being stopped by a sense of increasing weight and pain, and a straining desire to make water, which rendered her unhappy, and led to her never attempting to walk—to the surprise of all around her, for she seemed to be in perfect health, having a good colour. Her natural delicacy prevented her from consulting any one, until one summer she became somewhat intimate with the writer's wife; and to her the tale of concealed suffering was told.

On the writer being told, he of course divined that *there* was a prolapse of the womb. An examination was, *after* a time, consented to, when a prolapse was discovered,

and a flat oval boxwood pessary of proper size was introduced, and proper instructions how to manage it were given.

The very next day, to the patient's great delight, and to the astonishment of those who had seen her for years most, obstinately inactive, she, unknown to the author, walked a long way, without any suffering—though a walk or any exertion is always imprudent, not to say hazardous, till the parts have got accustomed to the presence of the foreign body,

Another case was that of a poor washerwoman, with large family totally dependent on the mother's labour, who consulted the writer for a prolapse, in which the womb was on the point of protruding into the open air. The poor woman could no longer stand at the wash-tub, and the family was much distressed. After a little preparatory treatment, the writer introduced a flat open pessary, and the next day, and, indeed, every day after, she was able, not only to stand at the wash-tub, but to do a day's work without inconvenience.

The oval pessary should measure, in thickness, not less than one-third of an inch at its external edge; for otherwise the edge may cause injury, and it should be gradually thinner as it approaches the hole in the centre.

A surgeon should introduce it, but as there may be no one near, or the patient cannot conquer her repugnance to divulge her annoyance, she may try what is called a medium size first—smear it with lard—put the finger into the central hole, and introduce it by its short diameter, till it fairly arrives at the end of the passage—then it should be gently turned, so that each end of the oval may point towards the sides of the pelvis, with the hole facing the outlet.

If the pessary chosen be too large, pain and irritation will declare the fact—and if too small, it will either soon slip down and come away of itself, or simultaneously with the first motion, or first urine expelled.

A clear headed, courageous person, may be quite able to manage this matter for herself—and the comfort felt will soon show whether the pessary is properly chosen or properly fixed. Its presence will not prevent pregnancy, nor will the husband be aware, probably, nor need he know, of anything of the kind being fixed there.

There are some valuable mechanical contrivances to

keep the womb in its place. They consist of something to project within the passage, which is connected with an apparatus fixed round the body, to which it is fastened. England's spring truss is a good instrument, where there is no rough work to be undergone; but it is necessarily somewhat expensive, though doubtless Mr. England has fixed the lowest price upon it.

A shield pessary, invented by Mr. Duffin, and sold by Messrs. Stoddart, in the Strand, is recommended by several eminent medical men.

The Whites, or Leucorrhœa, or Fluor Albus

This is a common complaint, and is often suffered to continue unopposed by treatment; because the sufferers cannot overcome their repugnance to mention their state to any one.

It is a light coloured discharge from the female genitals, varying in hue from a whitish or colourless to a yellowish light green, or to a slightly red or brown colour—in consistence from a limpid serum to a tenacious ropy substance—and in quantity, from a slight increase of the healthy secretion to several ounces in the twenty-four hours.

This descriptive definition of Dr. Copland's is a very good one.

This discharge may come from the vagina or from the womb. Leucorrhœa may occur at any period of life—from earliest infancy to advanced old age—but it is most frequent between the ages of fifteen and fifty. In childhood and infancy there is a general disposition in the mucous membranes to be irritated or inflamed, and to furnish a copious mucous or mucopuriform secretion. After fifty this disorder is seldom observed, unless there be some co-existing organic disease.

The discharge may issue from the vagina, or from the womb itself—when from the vagina, it is caused, when acute, by inflammation.

The symptoms are, heat and soreness in the passage, with frequently itching externally—pain or smarting—bearing down. A discharge of a thin acrid fluid appears soon after these symptoms, seldom later than a day or *two*; but soon it appears to become whiter, thicker, or *yellower*, more like pus or matter, and resembling cream.

Pain in the back and loins, with languor, lassitude,

thirst, quick pulse, costiveness, and high coloured urine, and smarting on passing it, accompany or succeed the symptoms detailed above.

This discharge is not increased before or after the menstrual period. Rich living—luxurious life and indulgences may irritate the body.

Treatment.—In the acute stage is to bleed by lancet or leeches—laxatives—warm baths. If the constitution is debilitated, give tonics and generous diet, and as soon as the local heat and swelling in the passage are subdued; then the injection of sulphates of zinc and alum. The creasote injection is useful. Of creasote, thirty drops; spirits of wine, half ounce; and seven ounces and a half of boiling water—or, introduce a piece of lint soaked in a liniment of Goulard's extract, Battley's laudanum, and mucilage of gum arabic, equal parts of each. But the female syringes in common use are objectionable—they are too small and produce irritation from the frequent necessity of withdrawing the pipe for the purpose of refilling the instrument. To the common domestic lavement syringe, a proper vaginal pipe should be fixed; and by this, any quantity may be thrown up, without removing the pipe. William Smee and Son, 6, Finsbury Pavement, have invented an enema bidet, for the purpose.

The fluid should be thrown up, while the patient is in the recumbent position—and if it is desired that the injection should be retained as long as possible, the hips must be raised by a pillow. The most portable apparatus is a gum-elastic bottle, holding ten or twelve ounces, with a gum elastic pipe fixed into it, half an inch in diameter, and about three or four inches in length, rounded at its extremity, and pierced with several holes. Where this is fixed to the bottle is an oval shaped ivory shield, to which a soft piece of sponge is attached, and this is put to prevent the instrument from being introduced too far; and also to assist in retaining the fluid injected.

Medicated injections are never injected in sufficient quantity, says Dr. Bull, or retained sufficiently long.

With these remedies we must look to the constitutional state—giving iron and tonics, when the skin and complexion are pale—the digestion impaired, &c. The cold bath is useful, with dry rubbing afterwards—the cold douche on loin or hips.

Cubebs and Benzoin have been recommended. Perhaps

when the inflammatory tendency is gone—this is a good form—

No. 168. Of Sulphate of quinine . . . 10 grs.
Dilute sulphuric acid . . 80 drops.
Syrup of orange peel . . 1 oz.
Water . . . . . 7 oz.

Take an eighth part three times a day of this tonic medicine.

In the chronic form of vaginal leucorrhœa, the discharge is more or less colourless or whitish—at times it is of deeper hue, being greenish, yellowish, or brownish, and now and then so acrid, as to excoriate the tops and insides of the thighs. There is little if any increase of heat, and little or no pain or tenderness. The glands in the groin are not enlarged. Weakness, languor, and impaired digestion attend; and the womb may at last be prolapsed from relaxation of the passage.

Treatment.—The acute stage, we saw, required lowering and quieting the system—here tonics and astringents may be given at once.

No. 169. Of Camphor . . . .
Sulphur of quinine } of each 20 grs.
Sulphate of iron .
Extract of camomile . . . 40 grs.

Peruvian balsam, enough to make thirty-six pills, two to be taken two or three times a day.

Decoction of oak-bark, the sulphates of zinc and alum may be used for injections, as before recommended.

In some cases this discharge is acting as a sort of safety valve; then it would be dangerous to do more than check it—but it rarely happens that it acts as a safety valve.

Leucorrhœa from the Glands at Neck of the Womb.

This is characterized by the whiteness of the discharge: by pain at the lowest point of the backbone; and by the state of the womb, when examined by the eye.

The discharge is thick, white, and resembles a mixture *of starch* and water without heat, or it looks like thin *cream.* It is readily whisked from the finger after exa-

mination, and is capable of being diffused in water, which it does not render turbid. It is often much thicker than cream, and is very tenacious, and then requires to be squeezed out, by exertions to empty the bowels. By long continuance, this disease may bring on some still more serious ones—and paleness, bloodlessness, costiveness, indigestion, &c., attend the later stages.

The causes are cold—great indulgence—hot, spicy, luxurious food—local excitement after marriage—feather-beds—late hours—balls, &c.

Treatment.—Remove the stage of excitement by the usual means—cupping on loins or low down the back—hip-baths—gentle, cooling laxatives; as the seidlitz powder, or cream of tartar—and inject tepid water, or decoction of poppy heads, three or four times a day.

When the chronic stage comes on, we can try gentle astringents; such as have been already mentioned.

Leucorrhœa from the Womb.

Many have denied, that whites can come from the womb—but this discharge has been found in the uterus after death, in a female who had laboured under whites, during her life.

Like the other forms, there is an acute and a chronic state.

In the acute, there is pain in lower part of back, with sense of dragging in the hips, thighs, &c.—there are, thirst, indigestion—and tendency to hysteric seizures. The discharge is sometimes copious—then stops—then is again discharged abundantly, giving decided relief. The constitution sympathizes, and all symptoms are aggravated at, or before and after, the menstrual periods. The discharge thickens into what is called pus or matter, in some instances.

The chronic state is very common—languor, weakness in loins—headache—paleness of face, and dark circle under the eyes, and increased discharge on, or before and after the periods. When the periods seem to have been superseded by this discharge, all the symptoms become more severe—and pallor or sallowness of face—loaded, yellowish, or pale, or sodden and flabby tongue—an impaired or fanciful appetite, with eruptions of acne on the face—*all show* the inroads made upon the constitution.

The discharge varies much in quantity—sometimes it is profuse—mostly colourless and semitransparent—in others it is opaque, of a greenish, yellowish, or brownish tinge. It varies as to thickness; from a thin, watery mucus, to a gelatinous mucus, resembling the white of a raw egg, or a curdled like matter. It is often very acrid.

When neglected, the termination of this leucorrhœa may be in stoppage of the periods—sterility—consumption—and even dropsy.

Treatment.—Here again, we must be guided by the local heat, pain, and other signs of excitement; wherefore cupping, leeches, hip-baths, soothing injections of warm water, with cooling aperients and diet, and everything to quiet the irritation are necessary.

But in proportion as debility seems to prevail, we may give tonics; and nutritious, not stimulant nor too high, seasoned diet.

No. 170. Of Citrate of iron . . . . . 60 grs.
Infusion of calumba, or of
quassia . . . . . 12 oz.

Two tablespoonfuls, thrice daily.

The iodide of iron, two grains, thrice daily; when paleness and scanty periods are present.

Many of the remedies called tonics, have been recommended.

The chalybeate mineral waters may be drunk. Tunbridge or Pyrmont waters, or Spa water.

Sponging or douching the loins, hips and back.

Tepid injections of warm water; to wash away the discharge.

We must use caution in ordering astringents—and they must at firstbe tried in very small quantities. The acetate of lead or Goulard water, the sulphate of zinc, &c., one or two grains to each ounce of water. A blister to loins is often useful.

A properly regulated diet is of importance; and the daily habits must also be looked to.

There are some watery discharges from the womb, which will be described further on; under the heads of Cauliflower Excrescence and Hydatid.

Menstruation—the Monthly Period.

This is perhaps the most important change, which the

female constitution has to undergo—and the difference between the girl, in whom no menstruation has occurred nor is impending, and that same girl, after it has been fully and happily established, is indeed truly striking.

Some mothers are exceedingly foolish in sometimes wishing to force the period—and, having made up their minds that the age of fifteen or sixteen, &c., is the proper time, they ascribe often temporary ailment which may occur, to the want of Nature's own evacuation.

One melancholy instance is related by Dr. Dewees; to whom a mother brought her daughter. He advised the mother to wait, and do nothing. She went to a quack—medicines were given—fever, &c., were set up—the quack told her to persevere—when death ensued. The celebrated quack medicine, was the oil of savin.

The age at which menstruation may occur, varies between the ages of twelve and nineteen; but fifteen is the age at which it most frequently happens, and the duration of this function is thirty years generally.

Management of the Menstrual Period.—Increased susceptibility and excitability attend this state. When the female is in good health, and the discharge is regular and natural in every respect; all that is required is the avoidance of any, or of all those influences which may prejudicially disturb the mind or body.

All medicines or remedies should not be used at this time—no bathing, cold or warm, should be allowed if all is natural.

Exposure to wet or cold is very dangerous—and if the person is in the habit of using vaginal injections, she should not use them, during and shortly before the period. Excessive exertion, and riding on horseback must be interdicted.

Sexual intercourse must be totally forbidden—for when such a circumstance has happened, "it has been followed by profuse hæmorrhage—at other times, by a suppression of the discharge; to which have succeeded fever, delirium, hysteria, mania, and even catalepsy."

Confinement in crowded, ill-ventilated rooms—deprivation of air and exercise—bad diet, &c., may cause disorders of menstruation; but a natural discharge in a healthy female requires nothing to be done by medicines. There may be some cases where the constitution seems, after a

few periods, to require a little help in the shape of tonics, and a more generous diet.

The period of the final cessation of the menses is variable.

At no time during her life is a female under such fear and anxiety as at this—which generally takes place about the age of forty-five or forty-six. Yet it is not reasonable to think, that any disease should be a necessary consequence of the cessation of a discharge, which is as perfectly natural as its appearance or continuance—so said Dr. Denman.

By many it is considered, that the turn of life is the fatal period, when serious and fatal disease is set up; so that when, as sometimes happens, the quantity of the periodical secretion is diminishing, prior to a total cessation, women are exceedingly uneasy, and often apply to have the secretion forced, as they call it. In this way disease might be induced, which would never have occurred.

It is supposed that cancer chooses this time for assault. Yet statistics do not confirm the supposition.

Mons. Lisfranc, of Paris, tells us, with regard to this point, that "We are not to believe, with most writers on this subject, that affections of the uterus are more common at this period than at any other. The great law of physiology—that the more an organ is exercised, the more liable it is to morbid affections, here holds good, as elsewhere. From thirty to thirty-five years of age, the reproductive organs are most exercised; and observation shows that diseases of the genital organs, are more common between those two periods. There are a great number of women affected with diseases of the uterus, in the Hospital of La Pitié; and amongst those so attacked, I do not remark more than three who have reached the age of forty."—*Lancet*, 1833-34.

The truth is, that when disease has been formed, or there is a tendency to some morbid action in the system, the cessation of the periods generally aids in aggravating the one, and in developing the other—and thus a disorder too slight to attract attention during active menstruation, will assume an active and a rapid form when it ceases.

Treatment.—This period of cessation is marked either by a diminished quantity of the menstrual secretion—or by an excess of it.

Now, the diminished quantity is the way Nature selects,

and accordingly many females have less and less discharge at every period when cessation is about to occur, until it ceases altogether; and this goes on so gradually as often to escape notice, for no unpleasant feelings or diseased manifestations occur.

In such cases, there is no occasion for medicines; but when there is an excess, we must diminish the quantity of the discharge, and try to prevent a return of excess.

Rest—cool drinks—application of cold—and gentle aperients. If these fail, together with the horizontal position, we must resort to the powerful anti-hæmorrhagics—such as the acetate of lead and opium, as recommended in spitting of blood.

To apply cold to the belly, we should procure some large bladders; half fill them with ice, cold water, or water in which there is some ice—that is, if this happens during summer or hot weather—if in winter, cold water alone will suffice—and keep these bladders applied.

The legs and feet are to be kept warm; in order to draw or divert as much blood as possible, from the inward part.

The lead and opium pills or draughts may be given every three or four hours, according to circumstances—that is, if the quantity of the blood discharged is very great, and is causing faintness, &c., but if the symptoms are not so urgent; then the sulphuric acid and alum medicine, as recommended in HÆMOPTYSIS, should be given.

The plug is often applied in extreme cases—to make it, we fold a soft handkerchief, dip it in vinegar-and-water, and put it up to the top of the bleeding passage, as far as it can be gently pushed. Some recommend a piece of ice to be inserted within the handkerchief.

This plug may remain undisturbed for eight or ten hours; but not longer. Every eight or ten hours it should be removed, cleansed, and re-inserted; or another put in instead.

To prevent a recurrence of this monthly flooding; we must teach the avoidance of whatever tends to excite mind or body—and sometimes a few ounces of blood must be abstracted by lancet, or by cupping-glasses to the loins, just before the period, if the person is of full, plethoric habit, and has been once already attacked.

Perhaps no remedy is so derivative, nor so useful in preventing these attacks, as purgatives—such as an acidulous solution *of Epsom salts*.

No. 171. Of Epsom salts . . . . . 1 oz.
Sulphuric acid, diluted . . 80 drops.
Tincture of cardamoms . . 3 drachms.
Infusion of roses . . . . 8 oz.

An eighth part, once or twice a day, according to effects.

In some cases, the patient has been obliged to be confined to a milk and vegetable diet.

In some cases of cessation, the discharge continues for an unduly long period; and yet with little discharge. Here we may give the bitter infusions, or the quinine. If necessary, a pill of acetate of lead and opium may be given occasionally, or for two nights successively. Directions how to manage these pills are given in the article HÆMOPTYSIS.

Finally, many women do not suffer heavily at this time; yet they complain of flying pains, which resemble those of rheumatism; also of headaches, and hot flushes, &c. In such cases, one gentleman recommends, as sovereign remedies, sarsaparilla and rhubarb, with alterative pills—viz., one Plummer's pill every night, for some eight or ten nights—then to discontinue for a week or two, and repeat.

GREEN SICKNESS, OR CHLOROSIS, OR AMENORRHŒA.

The blood is here altered in quality, containing less of the red particles and of its solid ingredients than it should do—while the secretions are also depraved. In some cases it depends on a want of development in the ovaria. These symptoms are, languor or fatigue on slight exertion—palpitations—pains in various parts, especially the side, loins and hips—throbbing of arteries—signs of indigestion, such as flatulence, acidity—a depraved appetite exists, and lime, chalk, pickles, acids, &c., are eaten; when there is no desire for proper food. The lips, face, and skin, lose their colour, and assume a dusky sallow hue—a black or dark circle surrounds the eyes—the feet swell and pit on pressure—the breathing is hurried—the pulse is frequent and small in calibre—the mind depressed—the finger nails dry, split, break off—hair falls off—hysteria *in its* various forms, with cough, dropsy, and in some *cases*, hectic fever sets in.

The pains in head or side, cough, &c., are so violent

and fixed, as to frighten, and give the idea of inflammation being set up in those parts.

Treatment.—We must try to restore the blood to a healthy state—and we must correct all the secretions that are out of order.

Some stomachs will not bear the stronger tonics at first—they seem to give pain. Then the writer begins with infusion of calumba or gentian, with sal volatile, twenty to thirty drops, and some carbonate of soda, twenty grains. To this, one drachm of Epsom salts may be added, when costiveness is present. The Epsom salts are omitted, as soon as they have acted gently. Then a mixture of infusion of calumba with three grains of citrate of iron may be given. After this, other preparations of iron will be well borne.

But in all cases, an occasional dose of an alterative aperient is necessary about once a week. A pill consisting of three grains of blue pill, and two of compound extract of colocynth should be taken at bedtime—and next morning a dose of the black draught (salts and senna mixture), or a seidlits powder will answer in those who are not of too costive a habit. These aperients seem to set the bile flowing freely—and to clear the stomach and bowels—improving the digestive powers, and causing more healthy blood to be formed.

Some prescribe aperients combined with tonics—such as aloes with the sulphates of iron and of quinine—but the writer prefers to give them as above stated.

The iodide of iron, two grains, with tincture of orange peel, one drachm, and one or two ounces of water, three times a day, often acts powerfully.

Hip-baths—the waters of Driburg, Pyrmont, Spa, Carlsbad, or the Bath and Buxton warm springs used as baths.

Diligent hand rubbing with gloves made for the purpose—proper air, and exercise.

Troublesome symptoms are to be obviated, as best we may—but of all, the pain in the side is the most general.

As it depends on the state of the womb in this case; it is not likely to be relieved in any other way, than by the relief of the original disorder. Still poultices may be applied, over which powdered opium has been sprinkled—or an instantaneous blister may be formed by nitric acid, as described in page 219, and dressed with an ointment of *morphine*—or the belladonna plaster may be applied, or

the belladonna liniment rubbed in night and morning, or when in pain.

The hysterical symptoms are also troublesome. For these, the compound spirits of ammonia, thirty drops in camphor julep, with a little tincture of ginger or of cardamoms, may be serviceable.

Here the volatile tincture of guaiacum may be useful. Thirty to sixty drops in milk, or milk and water, three times a day. Madder has been recommended; but it is seldom, if ever, efficacious.

Where the green sickness depends on the non-development of the ovaria, we shall detect this state of cause by seeing, that the usual signs of womanhood, of female development, have not made their appearance—that the breasts do not become larger, nor the hips and thighs, and limbs, acquire that full development and rounded form which characterise the healthy female.

Here art is at fault—for there is not sufficient light to guide our practice.

As to giving savin, hellebore, ergot of rye, strychnine, rue, pennyroyal, and various other nostrums, which have been called specifics; the writer has no faith in them. Such as rue, and others like it, there can be no harm in trying—but savin, hellebore, &c., may, and often do act like poisons.

It is better to trust to perseverance in strengthening the constitution by every possible means, than to seek for those remedies so highly thought of, by many an old gossip; and miscalled, specifics.

Retention or Suppression of the Periods.—Amenorrhœa.

Here, the periods may have commenced—but from accidental cold, or some other cause, the discharge suddenly ceases, and although the feet may be put into a warm bath, and other measures may be taken, yet it does not reappear—this is suppression; or the time may have arrived for the usual secretion to appear, and it does not appear—this is retention.

This state of things may co-exist with, or spring from, *constitutional* debility.

The symptoms are those of debility and languid circulation—or of debility with a deranged state of the blood added.

The symptoms are, pale countenance—or else it is waxen, sallow, and muddy—the general signs of debility—of impaired digestion—and of nervous or hysterical seizures.

Treatment is pretty manifest to those who have attended to the preceding directions.

Hip-baths—steel medicines—Griffith's mixture, or the compound iron mixture of the pharmacopœia—occasional aperients or purgatives.

It is often a successful practice to apply a few leeches to the perinæum, about four days before the period is expected—and this time may be known by hardness of the breasts, and by certain inward feelings of discomfort.

The complications of amenorrhœa are very numerous; and must be treated as they arise.

Profuse Menstruation.—Menorrhagia.

The quantity lost at each period is, on an average, about five or eight ounces; and this secretion proceeds from the lining membrane of the womb itself, and seems to consist of the elements of the blood, in an altered condition. It contains much red colouring matter; but the albuminous and fibrinous constituents are present, probably in smaller proportion than in healthy blood. The coagulating power is wanting usually, when the secretion is not mixed with blood; but if any clots appear, we may conclude that blood is also escaping from or near the secreting surface. A very small portion of surface is sufficient for this secretion; for the womb of a young woman was examined after death, who had menstruated regularly and properly to the time of her death; yet the womb retained only a surface healthy enough to perform the menstrual function of the size of a finger nail—all the rest of the interior of the womb being in a state of disease.

The coagulation of the fibrine, normally present in the menstrual fluid, would seem to be prevented by its mixing with the vaginal mucus; but when an increased amount is poured forth, this admixture is not sufficient to destroy its power of forming a clot. In some cases of difficult menstruation, which seem to depend on a state of low inflammation in the womb, the fibrine has such a tendency *to become organized,* as to form shreds or layers of false

membrane, which sometimes plug up the mouth of the womb.

The menstrual secretion in health, is remarkable for its very acid character.

A monthly discharge of less than four ounces may be considered as scanty; of more than ten ounces, as excessive; and this discharge may take place in gushes, or in the form of a slight, moderate drain.

But, whatever the quantity discharged, the great and only point to be attended to, is the effect upon the constitution. However excessive, the quantity discharged may seem to be, it is doing no harm, and requires no meddling with, if the female is left in good health, and not in a state of debility and exhaustion.

This disorder may be viewed under three heads—that in which the discharge is of natural character, but is excessive in quantity; or, as respects its continuance or frequency of recurrence. 2nd, that in which there are clots of blood intermixed with the discharge; but without any change in the position or size of the neck of the womb. 3rd, that in which there is a change in size, or position of the womb.

Dr. Copland divides the disorder more correctly into true menorrhagia; and into hæmorrhagic menorrhagia.

The first kind comes on in various ways—sometimes suddenly and abundantly—sometimes slowly, yet insidiously. Thus, the period may be quickly over, and yet so much secretion discharged as to produce considerable exhaustion—or it may continue for two or (the writer has known instances) for three weeks, so that the sufferer was hardly ever free from this secretion, for longer than one week at a time.

Whites often precede or follow this disease. On examining the passage, there are neither heat, tenderness, nor swelling.

Weakness—aching across loins and hips—languor—exhaustion—singing in the ears—giddiness—headache—throbbings at the temples—palpitations—countenance, lips, tongue, and gums, are all pale. The stomach and bowels become deranged—pains in the side, and the hardly ever-failing attendant on womb irritation, the pain in the *left side*—are present: and as the cause continues to *operate*, the ankles swell—dropsy—looseness of the bowels

—convulsions—and various nervous affections make their appearance.

The second kind is menorrhagia, with discharge of pure blood or coagula. "This variety is met with," says Dr. Copland, "in married females chiefly, of a phlegmatic temperament, and in those who have been weakened by disease, or by frequent childbearing, or by prolonged suckling; and in these circumstances it is generally complicated with whites."

Active or inflammatory menorrhagia occurs in robust, full-blooded married women, who live fully, and indulge freely in every pleasure. The sense of heat, tension, and pain in the region of the womb, is great; and the pains are so violent as to resemble labour pains.

The discharge sometimes comes on, in gushes with clots, and then the person feels relief for a time; in others, a draining, more or less copious, goes on. The neck and mouth of the womb are hot and swollen. After the discharge has ceased, the patient is left weak; and, after many attacks, with her health impaired.

The passive or chronic form may succeed the acute, or come slowly and gradually on. It occurs chiefly amongst the delicate, the hysterical, and debilitated females; and the increase of the discharge may vary, from a slight quantity to that producing the most severe prostration. The clots may be added gradually to the natural secretion —but they increase until they become numerous. Fainting and exhaustion ensue—the back is weak and aching—face and lips pallid—pulse small, feeble, and quick; and most serious symptoms result if the discharge be not arrested.

Treatment of the first variety.—When the patient is robust or full-blooded; a free discharge is often salutary, and must on no account be meddled with. General and local blood-letting, cupping on the loins, may be ordered when there is high action; but unless there be the most unequivocal evidence of tolerably high excitement, it will be better not to meddle; but when this discharge occurs in the delicate, pallid, and hysterical, the recumbent position, spare diet, cooling regimen, and cooling astringents are demanded.

The cream of tartar, with infusion of senna, to open the bowels; then infusion of roses, with sulphuric acid, may be given.

The main dependence is to be placed on the sugar of lead draughts, combined with opium (*see* SPITTING OF BLOOD), or on the sulphate of zinc, with opium.

The ergot of rye has been recommended in doses of five grains, three times a day.

Cold-sponging the loins, abdomen, and hips, and cold lavements, may be employed.

Plugging the passage is not recommended here.

For the pallid and delicate, the citrate of quinine and iron, or this mixture:—

No. 172. Of Sulphate of quinine . . . 16 grs.
——— iron . . . . 15 grs.
Dilute sulphuric acid . . . ½ oz.
Syrup . . . . . 4 oz.
Water distilled . . . . . 3½ oz. mix.

One table-spoonful thrice daily.

Chalybeate mineral waters—salt-water bathing—cold shower-bath—avoidance of all causes—such as cold or prolonged or excessive suckling—light, nutritious diet—wine.

The hæmorrhagic form must be treated during the inflammatory stage, with depletions of blood—cooling aperients—preparations of antimony with opiates—acetate of lead with opiates; and ipecacuanha and opium, when there is much pain or spasm. For pain, opiates at night, either in the form of Dover's powder, five to ten grains, or in the shape of what is called the compound soap pill, of which, five grains every night may be taken.

During the intervals, a cooling regimen, spare diet, cooling aperients, local depletions, may help to prevent a recurrence of the congestion.

In the passive state of this hæmorrhagic form, or clotted profuse menstruation as it may be called, we must apply the cold douche on the loins and hips—cold astringent lavements—the recumbent posture, and perfect quietude.

It has been recommended to throw up a few drops of a solution of alum or of acetate of lead into the womb itself, by means of a male gum-elastic catheter, which should be introduced gently; the wire withdrawn, and a small syringe being adapted to the catheter, a few drops (say *thirty* or forty) of a weak solution of acetate of lead may *be thrown* in; and the moment pain ensues in the back, *the operator* should desist.

This operation must not be attempted, by any one but a surgeon. The medicines to be given, are the sulphuric acid with alum mixture (*see* HEMOPTYSIS), the acetate of lead, and opium pills; and where the disease seems to depend on a diseased state of the blood, the cream of tartar is described by Mr. Sylvester, as endowed with extraordinary power over these discharges. It was first given on the principles expounded by Dr. W. Stevens.

OF PAINFUL OR DIFFICULT MENSTRUATION, OR DYSMENORRHŒA.

This is a very painful disorder. It has been defined as, menstruation, preceded and accompanied by acute pain in the belly, at its lower part, and often in the back or breasts, the discharge being frequently scanty, or presenting morbid appearances.

The suffering is often extreme, and pregnancy is often prevented by this state—or it may occasion abortion, if pregnancy has occurred. Married and single females are subject to it—the latter especially; and it may occur in all temperaments, and habits of body. Most frequently we meet with it, in women of irritable, hysterical, and nervous temperaments, of spare, strumous, and consumptive constitutions. Its occurrence is favoured by indolence, and by full or rich living. Exposure to cold, mental emotions, may cause it.

The amount and character of the pain may vary much; from a bearable amount of pain to such agony as to occasion fainting or severe retchings; and it may accompany every period, from the commencement of menstruation in life to the last period.

This form of menstruation may be called neuralgic; and attacks chiefly unmarried females, or the married, who have not borne children. It may appear at any menstrual age; but it is said to be most common about the thirtieth year. It is generally observed in nervous, or hysterical, and irritable temperaments; and in spare and delicate habits of body.

The monthly paroxysms of pain have all the characteristics of neuralgia, as in tic douloureux. They are often accompanied by headache; and the local pain begins at *the lowest part of the* back, spreading round the belly and

to the thighs. There is a sensation of bearing down—and the agony is at times so great, that the sufferer writhes about and tries various means of bearing the pain better.

After a certain time, some hours, or a day or two, a discharge commences, which at first is scanty, or comes in slight gushes—but the quantity is rarely great—though it varies in different individuals. It is frequently natural in appearance, at times pale, or mixed with small clots, or with shreds, or with a brainlike matter.

The membranous shreds, which are passed, consist of plastic lymph, formed within the womb. They may be thrown out in one piece, and shaped even like a triangular bag, as if it had been moulded upon the interior of the womb; and its expulsion is attended with violent forcing pains, not unlike those of labour. This discharge of membrane may accompany every period successively, or only occasionally. There is another form of this painful affection, which is attended with inflammatory symptoms—viz., flushes succeeded by chills, headache, and feverishness; sometime before the discharge, the skin is hot and pulse frequent, with constipation. These subside, as the discharge proceeds—but the pains are violently bearing down, when clots or coagula with portions of membrane are expelled. A white discharge remains after the coloured one—further weakening the sufferer.

Between the attacks, the health may remain pretty good; although whites may remain constantly.

Females who thus suffer, are said never to conceive; this is not true in every instance.

Some have mistaken the membranes expelled, for portions of those membranes, which are formed during conception—but the former are of a dirty white or yellowish colour, after moving them freely about in water—neither do they possess the soft, pulpy appearance and reddish colour of the conception membrane—nor have they any of the little bags which distinguish this latter—neither are there any of the little holes for the entrance of blood-vessels which are found in the pregnancy membrane. The latter is also a double membrane.

This disorder may not materially disturb the general health—however severe or painful it may have been—and *it is often* cured by medical treatment, by marriage, and by *child* bearing—while it ceases at a certain period of life.

Still its cessation may be followed by certain organic diseases.

Treatment.—To relieve the suffering when present; and to prevent it during the intervals; are the objects we must aim at—and it is very difficult to attain the first. Still we may mitigate, in almost all cases.

If the patient is strong and full blooded, leeches must be applied; though many women do not like the idea of leeching, lest the discharge should, as they say, be driven away altogether—but there will be no danger of this, if a few leeches be applied to the upper part of the thighs. They may give relief by lessening the inflammatory tendency that prevails.

Fomentations with hot sponges—the warm bath—the warm hip-bath—injections in the forepassage of warm decoction of poppies—and hot fomentations over the front and lower part of the body—and after them, a belladonna plaster.

An opiate suppository or lavement is most efficacious, or else tincture of opium in a draught—but if opium cannot be borne from peculiarity of constitution, give two of these pills every third or fourth hour.

No. 173. Of Compound galbanum pill . 30 grs.
Extract of henbane . . . 20 grs.
Biborate of soda . . . . 30 grs.
Extract of belladonna . . 4 grs.

Mix well, so that the last ingredient be equally divided—and make twenty pills.

The secretions should be attended to, by mild aperients occasionally—warm or cold salt water baths—and whatever is useful in conducing to healthy vigour.

The iodide of iron—the wine of iron with compound spirits of sulphuric ether—the ammoniated tincture of guaiacum, the tincture of cantharides, have all been recommended more or less strongly.

But the writer has found the greatest advantage from giving the following drops about six or seven nights before the expected time—having previously taken care to correct whatever seemed to need correcting—to remove indigestion, if that were present—or costiveness—the latter, not by sharp purgatives, but by gentle aperients.

Drops against painful periods.

No. 174. Of Wine of colchicum seeds . ½ oz.
Tincture of opium . . . . 1 oz.

Of this thirty, forty, or fifty drops, have been taken every night at bedtime, for six or seven nights before each period, in some water. A hip-bath, also, for a like number of nights.

These drops are serviceable, also, during the attacks, in doses of thirty drops, three or four times a day—with compound sulphuric ether—thirty drops, and an ounce of water.

Some who have once tried these drops, would never afterwards be without them. The opium might tend to confine the bowels—then an occasional aperient becomes necessary.

Ovarian diseases—the writer need not discuss—for his readers would not be able to distinguish them when they occurred—and in the case of ovarian dropsy, there is little or nothing to be done except by the surgeon.

Polypus of the Womb.

The term, uterine polypus, is employed to designate a class of tumours, which grow from the inner surface of the womb, or from its neck or mouth; and which are attached to these parts, by means of a neck of less size and diameter than the tumour itself.

Womb-polypi are of a pear-like form—of a tapering elongated shape in some instances; and round, or nearly so, in others. In size, they may be as small as a pea, or as large as a child's head—their surface is generally smooth—the colour variable, from that of paleness and straw colour, to a colour more or less bluish or purple—they are vascular. We have said, they are attached by one pedicle—but two or even three attachments have been met with. Probably there is but one pedicle, and the other attachments occur from inflammatory action having been in some way excited, and adhesions forming at one or more *points.*

A polypus is entirely enclosed within the womb at first; but as it becomes larger, it dilates gradually the neck and

mouth of the womb, passes through them, and protrudes into the passage called the vagina.

The local symptoms attending these polypi are, such as would arise from the presence and irritation of a foreign body in the passage. The mucous secretion of the part is increased, and becomes purulent as well as mucous, after a time; and the patient deems perhaps herself to be affected with whites only.

But the discharge may have some blood intermixed, or it may become discoloured and fetid—so much so, that many persons have been almost reduced to despair; because they thought "a cancer was forming," until an examination had been made.

There is a feeling of weight and uneasiness in the part, with a frequent desire to make water, or a bearing down in the back bowel.

If the discharge is profuse, there are signs of debility or of exhaustion; and severe indigestion with vomiting, palpitation, and dropsy of ankles are present.

The quantity of the discharge is not, in proportion to the size of the polypus; since a small one, situated in the neck of the womb, may cause as much as the largest of polypi.

Fortunately, when these polypi are once removed, there is no tendency to a reproduction—neither is there any danger in removing them, if the case is properly selected.

The bad effects they produce, arise from the exhaustion of the discharge; and from the pressure they, when very large, may exert on neighbouring parts.

Treatment.—While the polypus remains out of the surgeon's reach, we may do much good by throwing up injections; and by treating as we treat cases of whites or of profuse menstruation—so as to prevent the exhaustion, which so often arises from the discharge.

The tumour, which must be removed, may be taken away in three ways.—If it is small, or of a cellular character, by forcibly twisting it off. 2ndly, it may sometimes be drawn downwards, and the pedicle divided by knife or scissors. And lastly, a ligature may be applied to it; so to constrict the pedicle, as to cause it to fall off in time.

The best mode is that of applying a ligature; and the reasons why this mode of removing the polypus is preferable to either of the other two—it needs not that the author *should relate: but* the usual *sine quâ non* of applying the

ligature is, that the pedicle should be smaller than the body of the swelling, and that its surface should be smooth—for a rough surface accompanies malignant disease.

The author was consulted some years ago, by an infirmary patient, whose emaciation, debility, and deep saffron-coloured skin, had been attracting great sympathy and attention. She was supposed to be dying from cancer of the womb.

On examination, the author found an uterine polypus, so large as to nearly fill the vagina, with a neck, of a diameter almost equal to that of the body of the polypus; while the nearest point, the head, felt rough to the finger.

Notwithstanding these suspicious circumstances, extirpation by ligature was recommended.

The surgeon of a neighbouring town, who had attended her all along, absolutely refused to operate; and persuaded the woman to refuse. He said it was a case of cauliflower excrescence—that it was of malignant growth.

After some discussion, it was agreed that the woman should seek the advice of an eminent London accoucheur. She did so, and brought a letter to the author, to the effect that he would operate, if the case were under his care. The ligature was applied; the polypus was brought or came away in eighteen or twenty-one days. The fœtid, horrible looking, discoloured discharges were stopped; and the dying woman soon recovered all her original good health and bloom.

On examining the polypus, its surface was found to be smooth—only some large vessels ran over the surface, which were dilated by the compression of the sides of the vagina, in consequence of the size of the polypus; and the pedicle was thickened and swollen, probably from a similar cause.

Cauliflower Excrescence of the Womb.

An excrescence, like a fungus, sometimes grows from one lip, or from the whole circumference of the mouth of the womb; insensible, like the ordinary polypus, we have just described; but having a broad base, and an irregular surface, which has a tendency to bleed at times; and also to recur, if it be removed.

Symptoms.—Little or no pain—an abundant secretion

and discharge of fluid, and this discharge constitutes the distinguishing symptom. It is of a watery character, not of any smell, and often mixed up with the ordinary discharge of the whites; and also with more or less of blood.

If the tumour be examined by a speculum, its colour is a bright-red or flesh-colour; and its size may vary from that of a hazel nut, to that which fills the vagina. When it begins to attract attention, it is often not bigger than a strawberry.

The drain from the swelling goes on; and as there is no smell, the patient's attention is not attracted to it, until the constitution becomes quite exhausted.

The stages of this exhaustion are marked in the usual manner—by languor, weakness, indigestion, &c., down to dropsical ankles, and extreme exhaustion.

Treatment.—We must check or prevent, if we can, the discharge, by the usual astringent injections, before mentioned—by a mild, unstimulating diet—recumbent position—avoidance of all local stimulus, and gentle laxatives, occasionally. The cold hip-bath or douche to the loins. Gentle bitter infusions, as of gentian or calumba with sal volatile, and some carbonate of soda—two ounces of infusion, twenty drops of sal volatile, and twenty grains of soda, two or three times a day.

This tumour has been removed by ligature, but it has generally recurred; and the only operation which promises any chance of success, is excision or cutting away of the swelling itself, and also of the neck of the womb. This has been done with success; and no recurrence of the malady. When the disease does recur, an operation has prolonged life—by taking away for a time the source of the exhausting discharge.

The Corroding Ulcer of the Womb

Is a variety of ulceration, differing from cancer in not being attended with deposit of diseased structure, around the affected part.

There are no symptoms to be depended on, and the disease is only made out by a medical man's examination—under whose care the patient should place herself.

Colourless, or Transparent, or Watery Discharges from the Womb.

The known sources of the watery discharge from the womb, are two—the cauliflower excrescence; and hydatids situated within the cavity.

Hydatids are unattached vesicles, possessing their proper vitality; and are dependent upon the parent body for the situations and conditions of existence.

Hydatids have the appearance of soap-bubbles, with a limpid fluid in them, instead of air; the envelope looking like a film of coagulated white of egg. They vary in size from that of a millet-seed, to that of the largest orange; they are of a globular or spheroidal form; and their specific gravity is nearly that of water, though they generally sink when plunged into this fluid. They are transparent and clear, though their envelopes may give them an opaline hue, in spots, or all over their surface.

Within these hydatids, globules may be seen floating about unattached, in the interior of which other globules appear—successive generations thus appearing in the same cyst.

They adhere to the neighbouring parts, often causing inconvenience by their pressure and presence—they decay after a certain time; and the skins or empty bags are squeezed together.

Hydatids are divided into the solitary and the prolific. The first is most common in animals; the last, in man; and these latter contain always numerous others within their cysts—from a hundred to a thousand may be contained in the same cyst.

These parasites form without exciting any disturbance; and their existence has never been suspected until they were found after death.

Treatment.—There can be no treatment, where there are no symptoms: but in the present case of hydatids in the womb, there may be a colourless discharge, like water indeed; and the patient must then try to have it ascertained, whether this watery discharge proceeds from a cauliflower excrescence, or from hydatids. The only *unerring* sign of the latter, is the cyst itself swimming or *floating* in water when recently discharged.

The remedies are whatever will tend to restore or augment the vigour and health of the patient—tonics, vege-

table or mineral baths, good food, &c.; for it is a received rule, that parasites form, multiply, and increase in proportion as the patient becomes weakened, and as the excretions or secretions accumulate or are retained.

Spinal Curvature.

This is perhaps one of the most frequent affections we meet with.

Spinal deformity may be produced in various ways—there may be disease of the bodies of the bones of the back, and of other adjacent parts, from scrofula. With such forms we do not here meddle; but we allude to what is called lateral curvature.

At first, there would seem to be nothing but muscular weakness; and the first sign of the future deformity, if neglected, is a rising of one shoulder higher than the other; and a greater fulness. On examining the spine, we shall find a curve to right or left in those spinal bones, which are between the shoulder blades. This state may last for some time; but the same causes continuing to operate, another curve takes place lower down in the loins, forming a figure like the letter S; and this is called the double curvature.

The upper lateral curvature has generally its convexity to the left, and comprises the lower neck spine bones, and two or three of the upper back ones. The middle curvature generally has its convexity to the right, and it is formed by the spinal bones of the back.

The lower curvature has its convexity to the left, and comprises the lumbar and lowest spinal bones of the back.

The consequences of lateral curvature are usually very slight; but when the curvature is extreme, it often gives rise to very serious symptoms—severe pains, cramps, and numbness—in consequence of pressure being exercised on the nerves, which issue from the spinal marrow; and the deformity may increase to such a degree, as to impede the due action of the heart, lungs, stomach, &c.

This disorder attacks from the age of eight to eighteen. A predisposing cause is the female sex—a ricketty, scrofulous constitution also disposes, and so does impure air, *and whatever is* calculated to induce debility. Very slight

exciting causes will bring on this affection.—The attitude necessary to carry a child in arms is a prolific source; and we too often see a little bit of a girl, not long able to walk alone, carrying a baby on her arms—standing on one leg—a certain position when learning writing, drawing, &c., are also causes. But, of all causes, stays are the monster cause; and send many annually to their graves, who, but for them, might have lived many years, in enjoyment of a happy life. "These abominations are made so as to press downward and together the lower ribs; to reduce the cavity of the chest, especially at its base; and even partially to displace these vital organs. They leave the upper regions of the chest exposed—those very regions where tubercular, consumptive, bronchial, and inflammatory diseases generally commence; and which are the most prone to attack—from the vicissitudes of the season, weather, temperature, humidity, and external injury. These noxious and unnecessary articles of clothing—these mischievous appliances to the female form, useful only to conceal defects, are rendered still more injurious by the number of unyielding, or only partially yielding supports, with which they are constructed on every side. There are the whalebones in the back and sides, and the steel in front, extending nearly from the top of the sternum (breastbone) almost to the pubes (lowest part of front of body)." The author goes on to remark on the effects caused by the pressure on the vital and assimilative organs; and then adverts to this metal support. "However well it may be protected from contact with the surface, it acts as a conductor, both of animal warmth and of the electro-motive agency passing through the frame; it carries off by its polarization, into the surrounding air, especially during humid states of the atmosphere, the electricity of the body—this agent being necessary to the due discharge of the nervous functions, either in its electro-galvanic state or manifestation."

Now, without attaching too much importance to the electro-galvanic objection—for some young ladies do not wear metallic fronts—there is no doubt that the tight stays do compress and prevent the due action of muscles; whereby they lose their powers, and ultimately dwindle away. One case, the writer has detailed in his work on *Prevention* of Disease, on Consumption, and Scrofula, of *a Mademoiselle* Leblanc, a young French milliner, remarkable for the petitesse of her taille, who died at Edin-

burgh an early victim of consumption; and it was found that those portions of the muscles of the loins and fore-stomach, which had been subjected to the highly strained pressure of the corset during life, were reduced to the consistence of a soft and flaccid cellular tissue, faintly sheeted with muscular fibres.

If the spinal deformity be suffered to continue unchecked, the lungs do not expand sufficiently—difficulty of breathing, debility of the stomach functions, heart disease, and dropsy of the chest, may ensue in the end, from the continued pressure—a pressure which is sometimes never intermitted; for some of the victims can hardly sleep but with their stays on them.

Treatment.—Attention should be immediately paid to the slightest derangement, in the symmetry of the spine and shoulders; for the early treatment is uniformly successful.

All habits must be investigated—the mind must be less attended to, the body more; and instead of inciting a perhaps clever daughter to too much study, the hours of schooling should be shortened. Exercise in pure air, and plenty of it, yet so as never to fatigue, must be enjoined. If appetite be deficient, gentle tonics must be given—neither should the parents or teachers insist too much on the Cooper chair and the sit-upright system—for since some can bear the erect position longer than others, those who feel fatigue from sitting or standing too long in the perpendicular, should be suffered to rest the fatigued muscles, by a recumbent position for a time. All the talk about marvellous couches, should be rejected as unworthy of credit—and the main point as to beds or couches is, that they should not be heating to the back—as a feather bed for instance.

As to the Cooper chair, the writer thinks that no contrivance could have been invented, better adapted to increase the deformity. It is astonishing how soon, in so inconvenient a seat as that forms, the girl slides into a position by which the muscles relieve themselves; while some are acting, and others which should act at the same time, remain quiescent. There is no trustworthy evidence that Sir Astley Cooper ever recommended or invented that chair; and the fiction may be classed with that of the Abernethy biscuit.

But possibly the disorder has made some progress; and

effective treatment must be attempted. Here a fertile field has been opened to quacks and speciality-doctors.

Many years ago the author recollects the system recommended by Sir Charles Bell and Mr. Shaw; and some sufferers used to be told that they were to keep the recumbent position night and day, for one, two years, or even longer—and they would at the end rise up straight.

And so they did—but the muscles so long inactive, could no longer maintain the erect position—and soon the old deformity made its appearance. But in addition, it was found, that in many instances, where there was a predisposition, consumption was also set up.

Whatever is done remedially, must be done, while the girl continues her usual daily avocations—and this has been effected by only one gentleman, Mr. Joseph Amesbury, of Fitzroy-square. His practice is, to order daily practice on an inclined plane, made in such a way as to allow of the general action of the muscles affected—while for the deformity itself, he has invented what he calls a spinal support, which is so arranged as to gently press back the protruding parts; and to allow for the filling up of the corresponding hollow. And after curative treatment was ended, he recommended stays, called simple supports; to prevent a recurrence of the deformity.

The patients continue to walk about as usual, and the general health not only does not suffer; but is much improved.

This is the only mode of treatment combined with general attention to the health, which the author can recommend; and of the advantages of this, he has been an eyewitness. Where the disorder has not gone so far, as to allow of the spinal bones being immovably fixed in their unnatural positions, he has seen great deformity from the double curvature repeatedly remedied; and health restored.

As to deformity from disease of the bones, caused by scrofulous or other morbid action, each case must be treated as recommended in scrofula.

Spinal Irritation.

The general description of this is—pain in some part of *the spinal* column, generally accompanied by neuralgic or

hysterical affections, unattended by fever, or by other indications of inflammation, injury, or structural change of the spinal column, or of its contents.

These words of Dr. Copland very correctly and graphically describe spinal irritation:—

"A diversity of symptoms attend this state, varying in a considerable degree, according to the part of the spine affected. When the pain or tenderness is felt in the dorsal or back portion, it is sometimes referred to one side of the column, generally to the left side; and is often felt beneath the left mamma or breast—more rarely it is felt on the right side. In these cases, there are hysterical symptoms, with a feeling of tightness in the chest or of suffocation even, with difficulty of breathing, being obliged to sit up erect always with palpitations or spasmodic cough.

"When the lumbar spine or loin part is affected, there will be pains, and tightness in the abdomen or belly—numbness, cramps, pains, great tenderness; and in some cases even palsy of the lower limbs are added—constipation, retention of the urine, or else irritability lower down in the abdomen, with frequent desire to make water, or bearing down, as if of the womb, and the periods disturbed or very painful, will attend irritability of this portion of the spine.

"Irritation in the neck portion is not so often met with, as the two former states. Here the pain may rise and extend to the back of the head; there will be pains in face or neck; noise in the ears or deafness; difficulty of swallowing; a choking feeling; loss of voice and speech; an attack like croup; sense of suffocation; an approach to debility or palsy of the arms, with pricking sensations in the hands; coldness, or numbness of one or both hands."

With these symptoms, we shall find, on examining each bone in the spine, by tapping some particular one with the knuckles, and sometimes by putting a sponge wrung out of warm water, that pain or tenderness is felt there and nowhere else along the spine. Percussion seldom fails to elicit the pain.

Spinal irritation may be of a gouty, a rheumatic, or a syphilitic nature.

Treatment.—If the person be full-blooded, it will be well to lower a little at first—by cupping or leeches.

Dry cupping is often very useful. It is effected easily

exciting causes will bring on this affection.—The attitude necessary to carry a child in arms is a prolific source; and we too often see a little bit of a girl, not long able to walk alone, carrying a baby on her arms—standing on one leg—. a certain position when learning writing, drawing, &c., are also causes. But, of all causes, stays are the monster cause; and send many annually to their graves, who, but for them, might have lived many years, in enjoyment of a happy life. "These abominations are made so as to press downward and together the lower ribs; to reduce the cavity of the chest, especially at its base; and even partially to displace these vital organs. They leave the upper regions of the chest exposed—those very regions where tubercular, consumptive bronchial, and inflammatory diseases generally commence and which are the most prone to attack—from the vicissitudes of the season, weather, temperature, humidity, an external injury. These noxious and unnecessary articles clothing—these mischievous appliances to the female for useful only to conceal defects, are rendered still more injurious by the number of unyielding, or only partially yield supports, with which they are constructed on every s There are the whalebones in the back and sides, and steel in front, extending nearly from the top of sternum (breastbone) almost to the pubes (lowest pa front of body)." The author goes on to remark o effects caused by the pressure on the vital and assimi organs; and then adverts to this metal support. " ever well it may be protected from contact with t face, it acts as a conductor, both of animal warmth the electro-motive agency passing through the fr carries off by its polarization, into the surround especially during humid states of the atmosph electricity of the body—this agent being neces due discharge of the nervous functions, tro-galvanic state or manifestation."

Now, without attaching too much electro-galvanic objection—for some y wear metallic fronts—there is no d stays do compress and prevent the du whereby they lose their powers, an away. One case, the writer has de Prevention of Disease, on Consump a Mademoiselle Leblanc, a youn of her markable for the pe

Ball: then follow laughter, weeping, and much nervous agitation.

Thus terminates a mild fit of this singular disorder—in more severe seizures, the agitation of mind and body is very great; there are oppression at the chest, difficulty of breathing, palpitation, and speechlessness. The sufferer falls down; the breathing is slow, and the belly is much distended with wind; a quantity of limpid, colourless urine is passed; the patient seems to have lost her senses, and may become violent. The limbs may be either motionless or convulsed; and in some cases she rests on the back of her head, and her heels. After a time, the convulsive motions become less and less violent; a quantity of wind comes suddenly from the stomach; and soon afterwards, with sobbing or laughing, the sufferer comes to herself—sometimes retaining a recollection of what had passed, sometimes not.

The fit may last for several hours, and may pass into a state of coma (unnatural sleep), or into a state of syncope (fainting), peculiar in its character, and sometimes so closely resembling death, as to have led to mistakes.

The severe attacks may be over in a quarter of an hour or less, or they may last many hours, or even several days; and they chiefly occur when the periods are suspended, or when the digestion or bowels are deranged—in short, whenever any cause of irritation exists anywhere in the body.

Between the attacks it is not difficult to see who is likely to be exposed to them; the nervous balance is easily excited and easily overthrown.

When the disease has lasted a long time, for years, unchecked, the nervous system becomes seriously affected; and palsy, impaired memory, or even mania, may ensue.

This is what may be called regular hysteria; but the irregular form, where there is no regular fit or paroxysms, who can adequately describe? The states and symptoms are so varying; and so many diseases may be simulated in this state, that it requires much watching, and practical tact to avoid error.

Irregular hysteria may exist without any paroxysms or fits, attacking the patient; the symptoms are very various, and the disorder has justly been called the pathological Proteus. Few complaints are more likely to baffle the *junior practitioner* than this—it simulates and sometimes

closely too, many serious disorders of a serious and organic nature. Many sufferers have been bled, cupped, and blistered, not only without relief; but with addition to the original cause of the mischief.

Hysteria affects chiefly young women, in whom the process of menstruation, is in some way disordered—whose constitutional powers are feeble, either naturally so, or from exhaustion and debility caused by disease or habits of life. Their complexions are pale, hands and feet obstinately cold—their appetite is much impaired, and in many cases vitiated—in which latter case the most singular articles are fancied and eaten—chalky substances are favourites—candles, wafers, sealing wax, slate pencil, and various other indigestible matters, are sought after, yet no flesh is lost—no progressive emaciation is to be observed.

It will be interesting to follow Dr. Watson's description of some of the organic disorders, which are closely simulated in hysteria. One not uncommon instance is, that very serious disease called inflammation of the peritonæum (membrane lining the bowels.) Suddenly there will be acute pain in the belly, increased by the slightest pressure —the skin will perhaps be hot, pulse quick, and tongue furred. Now, if a state of inflammation really existed in this part, the treatment ought to be vigorous; by bloodletting to great extent, by mercurials, and lowering means; therefore, before such exhausting treatment is determined upon, it should be ascertained, whether the periods have been wrong in any way, and whether there have been any previous attacks of hysteric fits—whether the pain is augmented by increase of pressure; for continued and firm pressure will augment the pain in inflammation, not so in hysteria; or whether it seems seated in the skin, and is excited by the slightest touch. The author is in the habit of engaging the attention of the patient by asking questions, &c., while he is pressing, at first gently on the part. The pressure is then hardly noticed in hysteria, not so in inflammation.—If so, do not bleed, but throw up an assafœtida lavement, and in a short time the symptoms of peritonitis will have disappeared.

Dropsy of the belly has been imitated by a flatulent distension of the bowels, to such an extent as to cause the *patient*, if immersed, to float on water. This flatulence may possibly proceed from a paralytic debility of the bowel muscles, or from a secretion of gas. This gas has

been analyzed, and found to consist of carbonic acid gas, some nitrogen, hydrogen, and carburetted hydrogen. We may satisfy ourselves that there is no dropsy, by tapping or percussing the belly with our fingers,—when a clear and not a dull sound is returned.

Then we have the very common and intractable pains in the left side, which so many females complain of, and which give great alarm to many minds; because they fancy something serious is gathering there. Beware, that the strength is not lowered by leeching, blistering, purging, &c.

There is also an hysterical pain in the head, and over the brow; this latter has been called brow ague—the former clavus hystericus—and they were alluded to in the article headache.

Palsy again has been simulated—but the palsy comes on very suddenly; the person may be known to be hysterical, or a fit of hysteria will declare what the real state is.

Total loss of voice is another instance—and inflammation of the upper part of the air pipe, and croup, are both mimicked. The patient will breathe with the noise peculiar to croup; and in one case, the operation of opening the windpipe by an instrument had been twice performed—the scars of which operations remained visible.

Inability to swallow is very common, and the sufferers are firmly persuaded, that their gullets are mechanically closed; and will insist on an instrument, called a probang, being passed down. In one case, the moment the probang was introduced, a sharp fit of hysterics occurred, followed by similar fits in other females, who were present at the time.

The hysterical breast again is not uncommon—it becomes painful, tender, and enlarges somewhat. Ideas of cancer immediately arise—now, if these symptoms are not treated with leeches, and fomentations, &c., and if the local affection is made very light of, the irritability and pain will soon subside.

Cough is common. Hysterical cough is hard, loud, and solitary, producing hurried breathing, palpitation, and perspiration; and the cough is sometimes attended with a sort of howl, like that of a dog. At other times, the coughing is rapid, short, and tearing.

Hiccup is very distressing—in one case, the hiccup, loud and discordant, occurred every eight or ten seconds.

Another person, a servant, could not get any place, on

account of a continual hysterical eructation, which distressed her continually.

Vomiting of blood is not uncommon. One girl used to vomit daily potfuls of dark blood, (which did not coagulate); yet she did not lose flesh, and she went through her periods of menstruation quite regularly—only during the periods no blood was vomited; she did not receive any benefit from medicines—but after some time married—and recovered.

Coughing of a fluid, looking like blood, is met with, in hysteria.

Diseases of the joints are closely mimicked by this singular disorder—and so closely as to puzzle exceedingly. Sir Benjamin Brodie tells us, that four-fifths of the female patients in the higher ranks of society, who are commonly supposed to labour under diseases of the joints, labour under hysteria and nothing else.

The knee and hip are usually the chosen sites and joints. One lady, unmarried, had suffered so long and so much from pain in the knee, that she peremptorily and urgently demanded to have her leg cut off, and Sir Benjamin Brodie was obliged to temporize—yet it was all hysteria.

Spinal disease is closely imitated—pain, and tenderness in the back bone, with weakness in the legs, are the symptoms—and many a young female has been made to maintain the recumbent position for years even, and have had issues repeatedly made, &c., &c., who laboured under hysteria, and needed nothing of the kind—but a totally different mode of treatment. Some fancy, they cannot empty their bladder—others that they labour under stone in the bladder—others will declare, that they are unable to move, and appear to suffer great tortures if an attempt be made to move them—yet no real inability exists; save in the fancy. This disorder is named after its supposed origin in, or connexion with the womb—and the term hysteria cannot well be applied to males—still, that peculiar modification of the nervous system which is observed in hysteric girls is occasionally, though rarely, to be met with in males.

There is one disease, the paroxysms in which may be mistaken for those of hysteria—it is epilepsy—and there is another, which it may resemble, when in its chronic, and not acute form—hypochondriasis—but under all circumstances, we must closely observe; and we shall seldom fail to perceive the variety, changeableness, and incongruity of

the symptoms in hysteria, the irregularity of their course; and the rapid alterations of violent derangement, and of a nearly natural state, with which they are attended.

The genuine epileptic fit, attacks suddenly with a shrill cry—the eyeballs are distorted—teeth ground against each other—pupils of the eyes dilated—the tongue protruded from the mouth—the face swollen, discoloured—and the larynx or air-pipe is closed spasmodically. The fit is followed by heavy sleep; and nothing is remembered on awaking of what passed during the fit—and after many attacks, the countenance becomes inexpressive, heavy, imbecile or idiotic. The hysterical paroxysm is attended with laughing, crying, and a feeling of the hysterical ball—the muscles of the face, and the pupils of the eyes remain nearly in their natural state; but there is a peculiar trembling of the eyelid, which is a sign of great value; and wherever it is present, no matter whether the attack be called hysteric, cataleptic, trance, or mesmeric slumber, it is a sign of safety, and strongly suggestive of the cold effusion—the respiration is of a sighing, heaving character,—and after the fit there is more or less recollection of what has passed—nor does sleep follow, though the patient remains tranquil. But the two may be mixed up together.

Hypochondriasis may be supposed to exist when there is hysteria, but they are sometimes intermixed—however distinctive characters enough do exist. In the former there is a false direction of the moral energy, with inactivity, a concentration of all interest upon self alone; and a disposition to have recourse to a great many medical advisers. Hysteria is accompanied with a fitful activity, and a lively interest in the welfare of others, with confidence in the (one) medical attendant. Hypochondriasis is marked by sullen countenance, gloomy ideas and dejected spirits—hysteria by a restless, animated expression, convulsive paroxysms, and fickle temper.

Causes.—Predisposing are—the female sex—celibacy—the period of life comprised between puberty and the fifty-fifth year—a studious and sedentary life—want of good air and exercise—grief and anxiety—impaired health—fulness of blood—the scrofulous tendency.

Exciting causes are—indigestion—confined bowels—flatulence—any cause of exhaustion—suppression of the periods—fulness of blood—violent mental emotions—imitation or *sympathy*—*tight* lacing.

Hysteria, uncomplicated with epilepsy, is seldom attended with danger in females; but in males it may end in mental unsoundness.

One marked difference between hysteria and organic disease, if the disorder has continued long, is that however long the suspicious symptoms may have lasted, there is no correspondent wasting away, or no commensurate impairment of the general health; which there would be, if organic disease had prevailed so long.

Treatment.—Treatment is divided into that, during the fit, and that between the paroxysms, to prevent their recurrence.

First, during the fit, loosen the dress. Prevent the patient from doing herself any injury during her struggles. To put an end to the fit—cool air—and if the patient can swallow, give four tablespoonfuls of the assafœtida mixture.

No. 177. *Fœtid Mixture.*

Of Assafœtida	5 dr.
Water	1 pint.

Rub together by degrees; or 30 drops of ether, with 15 or 20 drops of tincture of opium in camphor mixture; or a drachm of ammoniated tincture of valerian will answer.

When she cannot swallow, apply stimulating vapours to the nostrils, smelling salts, &c. At the same time, we should administer a lavement, made by mixing two drachms of assafœtida, in half a pint of water; by gradually rubbing the assafœtida and the yolk of an egg together, or instead of the egg, an ounce of soft soap. Another useful injection is the turpentine injection. Half an ounce of turpentine is mixed with water, in the same way, as the assafœtida.

Or half-a-pint of ice cold water, thrown into the back passage, or applied in front of the lower part of the body.

Cold water should be freely dashed over forehead, face, neck, and chest; and this effusion of cold water, more or less forcible, is often of great service, not only in shortening the fit; but sometimes in preventing it.

The following remarks are so true, and have been so often verified in practice, that the writer cannot refrain from making an extract from Dr. Watson's Lectures:—

"In those long paroxysms—if they may be so called—in which some other disease is simulated by hysteria, the

cold effusion is a most valuable resource; especially in those forms of the disorder, in which a limb is permanently bent, or incapable of motion. In several instances, in which such contraction had existed for a long time, it has yielded in Middlesex Hospital to the cold douche. Mr. Corfe, as I stated before, takes much pains with these cases. He pours cold water from a teakettle, or any other convenient vessel, in a small stream, from a moderate height, upon the contracted limb. It has been bent up for weeks perhaps; no power that you are able to exert can extend it; and any very forcible attempts to straighten it, give the patient extreme pain. After the stream of water has been kept up for a short time, the patient complains of it very much: but Mr. Corfe is inflexible—more so than the culprit limb—he goes on. Presently the limb begins to tremble, the tight state of the muscles is evidently on the point of yielding, and in no long time they are entirely relaxed and manageable, and the limb becomes as manageable as ever. It often happens that the state of contraction recurs; but a repetition of the douche has always the same good effect, and by degrees the habit is broken, and the patient set free. It requires some determination to put this expedient in practice. The patient looks upon you as a monster of cruelty; and in private the friends will not always allow such rough treatment, as they consider it. Sir Charles Clarke, who necessarily saw a great number of these cases—for they are more common in the upper than in the lower classes of society—is a great advocate of this ducking system. He recommends a "sudden and lavish" application of water to the face, or the immersion of the whole body. He describes the class of patients, in whom the hysterical affection which is curable by that method occurs, as being generally females of a pasty complexion, fat, pale, and weak; or such as evince the ordinary signs of debility, a feeble pulse, cold extremities, and purpleness of the parts distant from the centre of circulation. The age of the patients varied from ten to thirty years—in many of them, the "periodical discharges were imperfect or absent."

A case of trismus (locked jaw) is also related by the same author.—"A young lady for many days had been unable to open her jaws—and therefore she could neither speak nor eat. At last Sir Charles Clarke was called in to *see her. He presently* comprehended the nature of her

ailment; had her placed with her head hanging over a tub by the side of the bed—and proceeded to pour pitchers of water on her face. Before he had emptied the second, the patient began to scream and complain, giving very audible indications that she could open her mouth. 'I say, although these patients get great relief by the treatment, they do not like it; and if they are convinced it will be put in force, they will generally contrive, not to require it.'"

The author when physician to an infirmary, in one of the wards of which, hysterical seizures from moral contagion, or from a principle of imitation, happened to be very frequent—soon stopped every attack by employing the sluicing of cold water, and having a large vessel full of it, ready for the nurses to use, on the slightest indication of a seizure. The actual application of water was not needed after the first time.

Many ladies, of firm intellect, and of some energy of character, can conquer, and have conquered the hysterical seizures, and the tendency to them—by moral effort alone. Of this, the writer has witnessed several gratifying instances; while on the other hand, he is sorry to say, that he has lost the patronage of several of his patients, whom he had, as in duty bound, advised to exert this power of repressing hysterical tendencies. He told them what they might achieve, if they chose only to try. They preferred an useless sympathy, and the employment of all the numerous remedies given on similar occasions.

During the intervals—our efforts must be exerted to regulate all the secretions—and to impart as much vigour and tone as possible to the system. How this is to be done, need not be detailed to those who have read the preceding pages.

But as in hysteria, the disorder consists in a peculiar state of the nervous centre, which may produce the symptoms, either spontaneously under ordinary influences, or by irritation communicated from other organs—it may be divided into the idiopathic, or sympathetic—for the convenience of considering the treatment. In the idiopathic, we may have no evidence of disease anywhere but in the nervous matter of the head and spine—and we are *therefore* left to treat it, according as it may affect the *circulation*.

Now the circulation—has by Dr. Thompson been supposed to be in one of two states—a state of congestion—and the atonic state. The state of congestion, generally manifests its attacks in the form called regular hysteria; occurring mostly just before the expected period. The convulsions are severe—the face flushed—the arteries of the neck and head are pulsating violently—and a fatal coma has followed in some cases.

It is in this state, that bloodletting is not only safe, but necessary. Cupping—leeches, or even the lancet may be employed. The volatile tincture of valerian—no brandy—cold to head—a sharp purgative or two—and lavements. Late hours—hot rooms—feather beds are prejudicial.

Sometimes little bloodletting will be necessary—if the patients will bear a sufficiently reduced diet.

Local congestion, wherever situate, must be met by local means—if there is headache, flushed face and delirium, or some form of insanity, or the person lie unconscious of those around her—cupping to the nape of the neck—or a drachm of turpentine, rubbed together with mucilage, with 30 drops of tincture of capsicum, thrice a day, may be given. Aperients and aloes are necessary often.

When the spine is observed to be puffy or tender, and the symptoms before related are discernible, a few leeches to the tender part—blisters or the tartar emetic ointment—a blister on each side of the spine. A case of vomiting (seemingly hysterical) of two years standing, was thus cured; and palpitations, teazing cough, may thus be relieved. Ether—prussic acid, may also be given; so may mercury to a slight extent.

When there is a spasm and closure of the organ of voice, cold water to the face, and salts to the nostrils. We should tickle the throat and swallow, with a feather.

Firm closure of the jaws is overcome often, by compression of the muscles between the chin and bone in the throat, or of the projecting cartilage in the throat.

A drum-like belly requires turpentine—or alum in considerable doses—while the lower spine is rubbed with stimulating embrocations.

Mercury is usually prejudicial—if given beyond occasional doses—but it is useful in the case of the obstinate barking cough, which has been described.

The atonic variety is attended with less vascular dia-

turbance; and requires less depletion, and a more tonic or strengthening treatment.

Sympathetic or secondary hysteria, is dependent generally, either on derangement of the womb, or of the bowels.

In the latter case, there may be torpor or irritation in the bowels. Irritation is marked by local symptoms—distended and tender belly—pain after eating—tongue with red papillæ or points on it—thirst, &c., with more or less hysterical signs or history of preceding attacks of hysteria.

Leeches, cooling saline medicines, with prussic acid—20 or 30 drops of sweet spirits of nitre may be added to each draught, if the urine appear muddy.

If the periods are, as often happens, too profuse, rest, liquor of acetate of ammonia. For an aperient, castor oil.

For palpitation and flatulent colic, the assafœtida lavement, diet must be regulated, stimulants avoided.

The torpor of the bowels requires a stimulating aperient —galvanism often helps.

Uterine hysteria is attended with the periods too profuse, or too scanty; or there may be a white discharge. The mode of treating these respective varieties, may be deduced from the treatment laid down in the previous pages, for each separate state.

For the pain in the side, which is neuralgic; and which is seated between the cartilages of the fifth, sixth, and seventh ribs; the tartar emetic ointment rubbed into the corresponding part of the spine, has been strongly recommended: leeches may be applied; also a warm flannel dipped in warmed spirits of turpentine.

For hysterical affections of the joints: no blistering, but belladonna plaster, or embrocation—a tepid lotion of spirits of rosemary and camphor mixture; or a cold spirit lotion. If the pain and other joint symptoms intermit, the sulphate of quinine—marriage is to be recommended or not, according to the existing state. Exercise; country air; amusing or useful employment—excessive sympathy should be avoided; yet kindness tempered with firmness should be observed towards all hysterical persons.

Sterility, or Barrenness.

Female unfruitfulness is a great grievance to almost every female. It often depends on causes, which cannot be removed; but then, at other times, the obstruction can

be obviated. Those cases which depend on diseases of the ovaria, (inward parts near the womb,) cannot be discriminated from others.

Sometimes the membrane called the hymen, is imperforate, that is, has no aperture in it, which it should have —and it resists firmly all ordinary pressure to break it through. It becomes necessary to divide the membrane by means of a knife, which is soon done; and has been done by the sufferers themselves; though such an operation should never be attempted by any other person, than a professionally educated one. Usually this state of the hymen will have been discovered before marriage; for with an imperforate hymen, the periodical discharge could not come away. Where the hymen is not altogether imperforate, the hole may be enlarged by a bit of sponge or of lint, rolled into the form of a bougie, and then dipped in a composition, made of one-third white wax, and two-thirds of lard. This is smooth and stiff enough, and yet not too stiff to hurt the parts. It should at first be half an inch in diameter, which may be gradually increased to an inch or an inch and a half. It should be introduced every evening, and allowed to remain two or three hours, or as long as it can be borne.

In the barrenness, which is accompanied with signs of want of power in the system—the atonic kind—nutritious diet, and all kinds of strengthening measures must be adopted. Generally we find, that those have the most children whose diet is far from being so luxurious, or even nutritious, as that of the upper classes. Scanty and innutritious fare does not prevent offspring. Twins are common in Scotland; more so in Ireland. In the London Lying-in Hospitals, twins occur in every 85 births, and three children at a birth once in every 14,393—while in Dublin amongst the scantily fed poor there, the proportions are 1 in 49, and 1 to 1462 of the triplets.

A spare diet of milk, and vegetables, has been enjoined on a married couple, full bodied and full blooded, and desirous of children; with great success. Active exercise in the open air must be conjoined.

Generally speaking, a nutritious diet ought to be the best. Some articles of diet seem to possess an exciting power over the generative functions, and not through the imagination either; thus, hempseed, and buck wheat have *this influence* on birds—eggs and sweet milk on horses—

oysters, especially at spawning time, fresh eggs, pigeons, lobsters have been prescribed in cases of sterility.

Climate has a great influence with respect to fecundation. A humid warmth of climate, says Foderé, in the Dictionnaire des Sciences Medicales, seems best to suit, not so much as a means of long life; but as a condition of its easy and rapid production.

Extremes of heat and cold, dryness and humidity, are not favourable.

In Lower Egypt, along the rivers of Africa, the sea coast in the ocean and Mediterranean, the function of reproduction is active. Higher Egypt, the arid regions of the interior of Africa and Arabia; and all those countries which approach the Arctic Pole, and stretch beyond the 60th degree of latitude, are less numerously peopled. In the province of Nice and valley of Nervia, there is the greatest fecundity; but if we only ascend the heights of Perinalda, we find plenty of wives who have never had families, and of girls who labour under suppression of the periods. Martigues, a place inhabited by fishermen and sailors, is remarkable for its swarms of children; yet at Cape Couronne, only two leagues distant, he (Foderé) was constantly consulted for sterility and amenorrhœa.

Removal into a warm climate from a cold one, will often induce a tendency to conception; as was observed in New South Wales, and Botany Bay.

Sterility is probably seldom caused by disease of the ovaria, for if one ovarium is diseased, the other will suffice for impregnation. One lady's body was examined after death, and there was only one ovarium on one side; yet the lady had been the mother of eleven children, of both sexes; and on one occasion twins were born.

Many a case of sterility or barrenness is removable or curable. Some change is often wrought in the constitution and generative system, by time, or change of residence; or by medicines, in many of those cases where offspring is vouchsafed, after many years of married life had passed by, without conception having once occurred.

The physician is continually meeting with cases where children have been born, for the first time eight, ten, twelve, and even more years after marriage; and where the married couple had resigned themselves to the prospect of never having any children at all.

Catherine de Medicis, Queen of Henry the Second of

France, had been married ten years to him, before she bore him any issue; and then a numerous family followed. Again, Anne of Austria was barren for twenty-two years, and afterwards gave birth to Louis the XIVth.

May we not hope, that in these cases the obstacles to conception might have been removed long before, if a searching investigation had been instituted. That the opposing causes were removable, the result showed, and they probably are connected with disorders of menstruation—in most cases there is either a profuse discharge, or suppression, or a painful bearing down attack when the periods come on, which bearing down would cause the expulsion of the egg in its early stage of growth.

Polypus of the womb may be an obstacle, though it has not always been so; still it should be tied and brought away, if feasible. The menstruation should be corrected according to its state, by the means already pointed out.

We should exhaust every possible, and imaginable means to bring menstruation to its proper state.

As to cases of abortion, we shall come to them at a future time; the subject of sterility (female sterility) is here alone taken up.

If all means are exhausted, without success, change of residence, or of climate, must be tried; and South Australia, New Zealand, and other places sought.

Inflammation of the Womb, or Metritis.

Symptoms.—Pain increased by pressure on the region of the womb externally, or within the passage, by the finger on the neck of the womb—which feels hot, swollen, and very painful on touching—the pain extends down the thighs and to the loins—there is a sense of weight and of bearing down—a difficulty in making water, and an inclination to do so, often with a swelling of the belly, and a windy blowing up or distension of it. In some cases, there are symptoms of hysteria. These symptoms are accompanied by fever, nausea, and vomiting. Slight delirium, impaired vision, and a tendency to coma, with extreme prostration, startings of the tendons, &c., at the last in fatal cases.

Causes.—Predisposing—are those of inflammation generally. Exciting—are suppression or diminution of the *periodical* discharge from cold; the use of too astringent

injections—mental emotions—physical injuries—blows and falls—child birth—and local excitement.

Treatment.—The usual course to remove inflammation must here be adopted; blood letting, general and local—cupping—leeches—the calomel and antimony powders (*see* No. 34), with five grains of Dover's powder, thrice daily—local fomentations—hip-baths—gentle saline aperients, and mucilaginous drinks for the dysury (difficulty in making water)—saline aperients are occasionally required; and lavements of warm or cold water, as may be most agreeable.

Chronic Inflammation of Womb.

This may arise without the acute having preceded; but often follows if the latter have not been properly treated—and the symptoms are various—affecting the health very materially.

Chronic inflammation causes ulceration, or suppuration, or the formation of membranes—or the enlargement, and hardening of the substance of the womb.

Ulcers are situated usually on one of the lips of the mouth of the womb; and can only be detected by the medical man. Matter, where it is formed, is known when during the periods matter, or pus, comes away, mixed with the secretion—and by the patient feeling an increase of the symptoms, during the period. When membranes are formed, painful menstruation occurs—which has been treated of.

The symptoms of local weight and pain, &c., have been mentioned under the acute form—only the febrile symptoms are absent. The periods are sometimes suppressed.

Treatment.—This may be gathered from what has been laid down for the acute; but Dr. Simpson particularly advises scarification or leeches to the womb itself—by means of a tube of ivory or pewter, of ten or twelve lines diameter—which is to be introduced gently to the end of the passage—into it from three to six leeches may be put, and they are pressed along with a wooden rod. This should be done every second or third day—and the bleeding encouraged by sitting over or in warm water. Dr. S. says, it is surprising to see the good effects from this local bleeding, even in females who seem weak and ill able to bear it. *Hardening* of the womb—such as to give the idea of cancer, *is thus* effectually removed.

As to bringing the leeches away—if any have not fixed—it is easy to do so, by throwing in a little common table salt dissolved in water.

The tartar emetic ointment should be rubbed in; so as to bring out a pustular eruption, on the lowermost part of the backbone.

If there is much debility or exhaustion, gentle tonics and support.

Irritable Womb.

This is a painful malady—there is constant pain in the loins, and round the brim of the hip bones. A few days before or after the period, fits of anguish come on—in one instance, the pain came midway between the periods. The constant uneasiness with occasional increase, soon induces the sufferer to give way to the relief afforded by repose; and to stir rarely from the sofa. The general health is soon broken by the worrying pain, and want of fresh air and exercise—then languor, costiveness, and indigestion are added. If the opening or neck of the womb be touched with the finger, the pain is increased to a great degree.

The young and middle-aged are liable—and those of nervous, excitable temperament. Undue exertion, violent jolting, or long standing during the period, may excite this disorder Astringent injections employed to cure whites, once caused an attack.

This disorder differs from prolapse of the womb, by the latter being always relieved during a recumbent position; here the pain is only diminished—and it differs from painful or membranous menstruation, by the pain being periodical in the latter, while it is constant in the irritable womb.

The issue is, that all are usually much relieved, while many recover completely; there is no danger to life, though time is required for treatment.

Treatment.—To subdue pain and sustain the general health, are the objects. Repose must be enjoined for a time—but it should not be indulged in, longer than is absolutely needful.

A belladonna plaster to the back—or an injection of extract of belladonna one drachm to warm water eight ounces—night and morning, or an injection of two to four *grains to each* ounce of distilled water—or a pill, contain-

ing one-third camphor and two-thirds of extract of henbane —three times a day—or what the author has found useful— twenty drops of tincture of opium, and fifteen drops of the wine of the colchicum seeds.

The hip-bath or poppy-head fomentations—if they seem to relieve. Gentle, not strong, nor forcing aperients.

Small doses of steel—a regulated diet—but avoid low diet, constant supine posture, close confinement, and depletions of whatever kind.

Management during Pregnancy.

In no situation in life, is it more important to know how to avoid errors in self-management, than it is in pregnancy —and many a young female incurs much unnecessary risk of miscarriage from pure, unintentional ignorance in her novel situation—an ignorance, which her natural delicacy prevents her from dispelling, by causing a repugnance to seek information from her medical adviser, or from those who are better informed.

Miscarriage is not only important, and likely to be very prejudicial by the immediate sufferings, which may be undergone; but also, by the habit of miscarriage which may be originated. From the moment of conception, the future mother's duties commence—and the object of the present writing is to point out the errors, which are often committed during this state. But before proceeding further, the author would counsel all mothers, to dissuade their daughters from marriage, if those daughters are in very delicate health, or are threatened with consumption.

During pregnancy, childbirth, and nursing, there must be a great strain on the natural powers and strength. If these are above or equal with, the average proportion, the young mother passes through her trials, with her health ultimately unimpaired; and even, if possible, improved— not so, with those of delicate and consumptive habit—for in them, the trial weakens their frame—the consumptive tendency is roused or brought forth into action—and after one or two childbearings, life is often cut off prematurely.

Diet is the first subject, upon which we must caution our readers. It is fancied, that an extra proportion of food *is necessary* for the support of the child—this is a very *common* and, at first sight, a not unreasonable error.

Yet nature does not encourage this notion—on the con-

trary, a reduction in the quantity of aliment would seem to be intended by her—else wherefore the morning sickness? Besides, provision has been made for extra supply, in the suppression of the periodical monthly discharges.

The rules for the diet in the early months of pregnancy are summed up in two words—moderation and simplicity.

Quality and quantity must be looked to—for if unhappily the pregnant female give way to fancy, and indulge beyond her powers of digestion, or cause irritation in the stomach by improper food, a state of permanent indigestion may become established—which may operate prejudicially so far as to weaken the powers, and bring on miscarriage. It may require some energy,—or even fortitude to withstand temptation as to diet—yet it should and must be done.

Rules for diet in the latter months, are similar—and it is even more important not to err at this time—for vomiting, heartburn, constipation, &c., are readily induced.

Cordials—and especially spirits or wine—are to be avoided—for their effects are doubly pernicious—to mother and to child.

Longings.

These fancies are often the mere offspring of the individual's will; who under the cover of the risk that the child might be marked, if her wishes are not gratified, seeks to obtain whatever she may long for. These fancies are however in some cases, the result of actual disorder, and of disorder of the brain too, rather than of the stomach. They must however be firmly resisted from the very commencement—for then, they are more easily conquered—though it will require much self-control on the part of the patient. Chalk is often greedily consumed, and Dr. Dewees tells us of a lady, who ate such quantities, that her bowels were not opened for ten or twelve days together, and then only by lavements—which brought away hardly anything but chalk. She brought on indigestion, and ultimately died—having been rendered quite pale and bloodless, and as white as the chalk itself. She calculated that she devoured three half pecks during each pregnancy.

Dr. Merriman relates an instance of a longing for *ginger, which* had a pernicious effect upon the child. A *young woman* married to a gingerbread maker took a

fancy during her first pregnancy to chew ginger. Of this spice, she consumed several pounds. When the child was born, it was found to be small and meagre—its skin was discoloured and rough, much resembling the scaly peeling off of skin, that takes place after some cases of scarlet fever. The child continued in ill health for several weeks, and then died. She had several children afterwards—healthy and vigorous. The inclination for ginger prevailed only with her first infant.

The author was consulted by a newly married husband, who told him, that his wife had a violent longing for an expensive muff—and had frightened him, by saying the child about to be born, would be marked with patches of fur, if she were not gratified—and he said, the expense to be incurred was greater than he liked to pay—yet sooner than the child should be marked, he would buy the muff. He was assured that little risk of marking the child would be incurred by a refusal. He went away comforted—although he had been told a good deal about mother's marks. The child was born without spot or blemish.

In these days, it hardly need be said, that an ungratified wish of the mother cannot impress an image of the thing longed for, upon the child's body—but there is no doubt as the above cited cases prove, that an indulgence in eating improper articles, may be the cause of seriously impairing the health of the mother, or child. Where there is a desire to eat chalk—we may do good, by allowing some 30 grains of bicarbonate of potash, to be taken in the compound infusion of gentian, or of any other mild bitter—but medicine must be assisted by the determination of the patient, not to give way to her inclinations. *See* also page 400.

Costiveness.

Costiveness generally attends pregnancy, throughout both the early and late months. During the later months, exercise cannot be taken, and the bowels will not act. This state and tendency must be obviated immediately—lavements are the best means—or one or two of the mild *aperient* pills, consisting of 3 grains of compound extract of colocynth and 2 grains of extract of henbane will suffice, if taken occasionally at bedtime—lenitive electuary has

been much given, one or two drachms, with sulphur added—but the health must be attended to, by taking as much exercise as can be borne—by daily ablutions or hip baths, &c.—by regulating the diet—and by not lying too long in bed, in the morning. This last practice is found to be highly conducive to costiveness.

Exercise

Must be taken during the first five or six months, unless there is a tendency to abortion—then passive exercise—that of riding in an open carriage—should alone be taken. But in most instances, gentle exercise, so as never to fatigue, may be safely taken. In the latter months, caution as to exercise is necessary, for the first miscarriage is a very serious matter, since it may lead to a habit.

Late hours, and a round of parties, dances, &c., &c., should be avoided, together with heated rooms; and both mind and body should be kept as quiet as possible.

And here the author would counsel against following the present and long existing fashion, of making a rapid tour on the continent, as the marriage trip. At no time does the newly made bride require more care and gentle treatment than at this period; yet the fashion has been to whirl her away from kindred and friends, in a state of excitement, to clamber over foreign mountains, and to undergo many discomforts, which she needed not to encounter. What has frequently resulted from this? Suddenly the lady is laid up, with symptoms of abortion—and then, without any medical attendant of her own nation, or perhaps of any nation, she has to struggle unaided through a very serious trial—while her husband can only stand by and wring his hands. Under similar circumstances, in future, such a guide as this book will prove, it is to be hoped, would, by telling what should be done, relieve much of the anxiety—and do substantial good besides.

From mishaps like these, various embitterments of the future married life may arise—an irritable womb, or vagina—inflammation of a wearing chronic nature—a habit of abortion—and many other evils. All heavy exertion must be avoided; nay, even in some persons of delicate health, even riding in a carriage must, during the later weeks, be avoided, if any jolting on a rough uneven road be expected.

Clothing.

When ladies become pregnant for the first time, they are often very desirous of concealing the fact—and so, continue to wear their old corsets, and old clothes, without any alteration being made in them, to adapt them to the increased and increasing size. The corsets should have lacings over each bosom, to be loosened or tightened at pleasure—and similar lacings should be made in the lower sides—to allow for the distension of the stomach.

If after repeated pregnancies, the size of the stomach has much increased, the muscles, from distension, probably will have lost their tone—then a belt should be worn—to lace at front or back—and to exert a continued and a modified pressure, at will of the wearer. A broad flannel roller, from six to eight yards in length, will be very serviceable; but Gaitskill's bandage is the best—to be worn, both before and after delivery. It is sold by all Surgeons' Instrument makers.

The feet must be well shod—and they should never be suffered to become cold, or wet, or chilled.

Bathing.

If a person have been accustomed to bathe—she ought to continue the practice, after pregnancy. After the morning bath, a short walk should be taken—to secure the glow which ought to follow bathing—and this walk should be taken immediately, or as soon as possible.

The body should be wiped quite dry—and as much friction used as can be, without detriment. As to the forms of bathing—individuals differ much—some can only bear sponging with cold water in summer—with tepid in autumn and winter. Bay-salt may be added to the water with advantage. The shower bath may be continued—if it have been previously employed—but the shock is too great to be encountered for the first time during pregnancy.

The hip-bath is preferred by the author—or sitz-baths. It should contain from three to four inches of water, in which the patient sits—the water rising to the navel—the feet should be kept warm, while in the bath, and a blanket should be thrown round both the bather and bath. In *the warm* summer months, and at all times in tropical *climates,* comfort will be derived from tepid ablution every *day before* the dinner hour. Let the lady sit in a shallow

bath, and her servant sponge her with water at 85°, or pour over her a couple of pailfuls of water, of the same temperature.

A sitz bath at 85° for a few minutes, before going to bed every night, is very refreshing.

The Breasts and Nipples.

It is needless almost to say, that any compression on the breasts and nipples ought to be avoided; and in addition to this, the nipples in a first pregnancy, should be prepared for nursing, for five or six weeks previous to confinement. Dr. Bull says—the skin covering the nipples is generally so thin and sensitive, that the child's lips and tongue in the act of sucking soon make them tender and excoriated—and if this sensibility be not diminished, and the delicate skin rendered thicker and more callous before labour comes on, nursing will in many cases be necessarily given up soon after.

He goes on to advise, that flannels or any thick covering must be laid aside. Daily, upon rising and going to rest, each nipple must be washed, either with green tea, or the infusion of oak or pomegranate bark; and having been carefully dried, must be exposed to the air for eight or ten minutes, and rubbed gently during this time with a piece of soft flannel.

One of the following lotions may be applied. Tincture of opium one drachm—Tincture of myrrh 2 drachms. Distilled water = 2 oz., mix—or 30 grains of white vitriol to 8 oz. of rose water—mix.

The author prefers a benzoin ointment or lotion as most efficacious. One drachm of tincture of benzoin to 2 oz. of alcohol, or spirits of rosemary.

Sore nipples, and a wet-nurse will thus be avoided in every probability—but the nipples are sometimes very small, short, and consequently sunken in—then they should be drawn out. A glass instrument, made like a tobacco pipe, and used for drawing the milk from an over-distended breast, may be employed for this purpose. With this instrument the nipples should be daily drawn out, for months before delivery—until they are prominent enough to admit the child to suckle.

What misery to mother and child may not thus be prevented! Yet do we ever hear of any pregnant female

applying to her future accoucheur, long before her delivery, to complain of the state of the nipples? May those, who read these passages, and who are in the state described, take warning, and set to, in time to obviate evils of most serious magnitude!

The author recollects one apposite instance of the danger arising from employing a wet-nurse—in which the child suffered—although the mother is the more likely of the two to be the sufferer. On her first child being born, it was supposed impossible for the mother to suckle her child. He was placed with a seemingly healthy wet-nurse—and was afflicted with scrofula, in its varied forms, through his subsequent life—while his younger brother, who was suckled by the mother, enjoyed a healthy and vigorous state of constitution. Bloodletting during pregnancy, is often practised by many—and the idea of its necessity prevails with the lower classes—yet the practice may be injurious to the mother, by inducing miscarriage; or to the child, by lowering its strength and natural vigour. It may be necessary to undergo this operation in some peculiar cases—but medical advice should be sought uniformly.

Mental emotions in excess should be avoided—for miscarriage has frequently been caused by sudden fright, &c. A calm, equable temper, and a life of quiet cheerfulness and moderately active duty should be cultivated, for the sake of both mother and child,—nor should the husband be unmindful of attending to this point, and of sparing his wife all possible annoyance.

Of longings, and of the power of the mother's imagination to mark the forthcoming child, mention has already been made. It would be a useless incumbrance to this book to relate some of the wonderful tales current, and undeniable facts told of mother's marks on the child, from ungratified longings. Dr. William Hunter took the pains to investigate two thousand cases of labour, and asked the woman about her longings, &c., and in the whole two thousand cases, he did not meet with one instance coincident.

Children may be born with various marks and discolorations and deformities,—and so are poultry, who have *no imaginative* parents—who are hatched with extra claws, *and other* deformities,—yet if we are to believe in this *parental* power to produce such an effect, we are forced to

believe that the hen must exert this power through the shell; and to reduce the matter to a still greater degree of absurdity, we must account for deformities which we often observe in chickens, hatched in dunghills, stoves, or ovens—for deformities appear equally often in such births.

If a pregnant female will, as she ought to do, engage her accoucheur early, and long before she expects to require his services—she should consult him on all points—and her mind may rest tranquil and secure.

Signs of Pregnancy.

Ceasing to be unwell is the first sign. Some have married and conceived without ever menstruating, but these are rare exceptions,—or the periodical discharge may be continued for the first three or four months, or even the whole period of pregnancy,—or conception may take place late in life, after menstruation has ceased.

Suckling is supposed to prevent conception; and many a poor mother has, under this erroneous notion, exhausted her strength by continuing to suckle for eighteen months or longer. Suckling mothers do not generally conceive during suckling; unless it is protracted beyond the period pointed out by nature.

The continuation during pregnancy, of a discharge looking like the periodical one is here mentioned in order to remove the notion entertained by some persons, of the impossibility that such a discharge and pregnancy can coexist. In one case, the medical man declared, on this ground alone, that his patient was not pregnant, but dropsical; and actually proposed tapping—from which time alone saved her.

But menstruation may have ceased, and yet pregnancy may occur,—when various alarms about disease immediately arise. Wherefore it is well to be aware, that there are undoubted facts recorded of these late conceptions. It so happens, that towards the end of woman's uterine life, a great disposition to pregnancy prevails.

The succession to an estate in France was disputed, because the mother was fifty-eight years old, when the child was born.

The cessation of the periods is not a conclusive evidence of pregnancy,—and there are many symptoms attending the *period of cessation*, which easily may give rise to the notion

of pregnancy—such as enlarged stomach—swollen breasts —while flatulence in the bowels may mimic the child's movements within the mother. What then are we to depend upon? When a woman ceases to be unwell, she is not certain from that alone of her pregnancy: but if towards the third month, the suppression continuing, she recovers her health, her colour, and her appetite, she needs no better proof of pregnancy—for under disease her health becomes impaired, and various symptoms of disorder arise.

Morning Sickness.—This is a very frequent sign. On first awaking, the woman feels as well as usual—she rises, and then a sensation of sickness comes on, and retching takes place even while dressing, or after breakfast.

This sickness may occur from the beginning, or two or three weeks after conception. Sometimes it attends only the last two months of pregnancy; or it may be absent altogether. It continues during the first half of pregnancy, and usually subsides when the child quickens—that is, when the movements of the child begin to be felt. But sickness may arise from other causes than pregnancy—if so, there will be other concomitant symptoms, and the health will be affected—whereas in the sickness of pregnancy, the mother eats, and feels well in every respect.

Enlargement of the breasts is hardly to be depended upon as an evidence of pregnancy—for they may enlarge from increase of fat, or from suppression of the periods. In this latter case, the enlargement is but temporary.

The nipple is a much more trustworthy criterion; usually the areola, in some six or seven weeks after conception, is enlarged to an inch or an inch and a half, and it is of a darker colour—but the discoloration may be absent,—then in pregnancy the nipple is found turgid and prominent, and upon its surface will be seen little prominent points, from ten to twenty in number—and these prominences enlarge from the sixteenth to the twelfth of an inch perhaps. Now these prominences, and the dark tint of the areola, with its rose-coloured, yellowish, hue are very characteristic. Dr. Bull says, he has never seen an instance where these prominences were truly developed, without the presence of pregnancy. They may be absent, *but* when present they may be relied on;—they appear *mostly* about a fortnight or so after conception; and after *delivery* diminish as the milk leaves.

The presence of milk is said to be a sign of pregnancy,—

this is an error—for milk has been secreted when there has been no pregnancy—in women who have ceased to menstruate—and even in men—of all which occurrences there are undoubted records.

Quickening.—This is the first sensation, the mother feels of the life of the child within her womb. It seems at first to be like a bird fluttering; and may come on so suddenly as to cause the mother to faint or to fall into hysterics. It recurs after a day or two; and then soon becomes more frequent and manifest.

The period, when this quickening takes place is uncertain—the time usually assigned is four calendar months and a half, but it differs in different women, and even in the same women at different times.

Dr. Bull, from his own calculations and tables, deduces that it takes place more frequently between the twelfth and sixteenth week, than before or after these periods. Before the third month quickening seldom arises.

Still my readers must not be alarmed, if no quickening occur—for it is sometimes, though rarely absent, and yet pregnancy exists.

If this quickening have attended former pregnancies, the sign is to be relied on—and is, perhaps, not to be mistaken. If the case is a first pregnancy, and doubtful, the occurrence of this sensation removes all further doubt; provided it grows stronger and stronger, until the movements of the child are distinctly felt.

The Prevention or Relief of the Diseases of Pregnancy.

A knowledge of the means to prevent or relieve the discomforts of pregnancy, should be possessed by every well-educated married woman.

Morning Sickness.—This occurs during the early or later months—and in the former case, decreases or ceases after the quickening has taken place.

A fluid, thin, limpid, and watery, is thrown up—and bile may be ejected, if the vomiting continue long—then in three or four hours the patient feels quite well again, and is ready for her dinner. Now, this arises from irritation of the womb, and the sympathy excited. To relieve this, a compress is recommended—it is a belt from eight to ten inches in its middle and widest part, narrowing gradually

to either end, in one of which is a slit through which the other end passes. To these are attached broad tapes, wherewith to fasten the belt round the body. It is made of double sheeting or brown holland, lined with India rubber cloth, and has three or four straps passing across it; under which is placed a piece of linen five or six times folded, and previously wrung out of cold water. This wringing out is called refreshing the compress; and should be done every two hours, or oftener, if it gets hot and dry. The belt is worn from the breastbone to an inch and a half below the navel, and so firmly secured as not to admit the external air.

Put this on, half an hour before rising, refresh it every two or three hours, laying it aside just before dinner, and of course while taking a bath. Should the sickness prove obstinate, it may be reapplied an hour after dinner; and worn through the day. If this simple, but frequently efficacious means fail, says Dr. Bull (from whose excellent practical book this extract has been taken) let the following draught be taken twice a day for several days—of magnesia, 15 grains; tincture of calumba, one drachm; distilled peppermint water, one ounce and a half.

Or, a tumbler of warm chamomile tea, or even warm water only, taken as soon as the qualmishness is felt, will, by inducing immediate vomiting, tranquillize the stomach, and shorten the attack.

Chamomile tea, is made by pouring half a pint of boiling water over two drachms of chamomile flowers—letting the fluid stand for ten or twenty minutes, and then straining. This chamomile tea might prevent the sickness, if taken half an hour or an hour before rising from bed in the morning.

If acid in the mouth prevail—magnesia or the potash, or soda carbonates must be taken; from twenty to forty grains of the two latter—and twenty grains of magnesia in a wineglassful of milk. But alkalies often fail—and then acids must be tried—lemonade or lemonjuice and water, whichever agrees best.

Costiveness must be removed—if it exist—by Epsom or Cheltenham salts every second or third morning, or when necessary.

If the sickness is distressing, it is better to take no food *at all,* for some hours after rising—a little broth or weak

beef-tea to moisten the mouth—and then nothing for five or six hours.

Where bile is thrown up, and there are furred tongue, confined bowels, and perhaps sick headache—a black draught of Epsom salts and senna should be taken—or blue pill and extract of colocynth. Then effervescing draughts.

To keep the tongue clean, three grains of extract of aloes, with two grains of extract of henbane, two or three times a week at bedtime. When the sickness has abated, and has left more or less of debility behind it—quinine, three grains—dilute sulphuric acid, 60 drops; syrup of orangepeel, an ounce; water or bitter infusion 5 ounces; a sixth part twice a day.

Should the sickness still continue violent, with fulness and pain at the pit of the stomach—or in the loins and hips, then a subinflammatory state is present—and a few leeches should be applied; and linen dipped in tincture of opium; or poultices, with powdered opium sprinkled on them, should be frequently placed, on the pit of the stomach.

The sickness, which takes place about the sixth, seventh, or eighth month, arises from the distended womb affecting, mechanically by its pressure, the coats of the stomach—and the vomiting, if it be severe, may bring on premature labour.

Here the recumbent position to take off pressure—a few leeches—rest—careful diet—a grain of Extract of Opium at night, and cloths dipped in tincture of opium to the pit of the stomach—mild animal food, boiled or roasted—chicken, game, mutton or beef roasted—stale good bread—mealy potatoes—well boiled rice—Jamaica sugar for the morning's coffee; and brown bread, form a sufficient list of eatables. Gentle exercise may be allowed—but if the patient overexert herself in any way, or overeat or eat improper articles, a premature labour is not unlikely to be brought on.

Heartburn.

Here acid is formed in the stomach, and rises into the throat, causing this unpleasant sensation. The carbonates of soda, potash, and magnesia have been tried, and relieve for a time; so do lime water, Carrara water, &c.—but the

best remedy is a teaspoonful of sal volatile with some magnesia in peppermint water, or this—carbonate of magnesia, 15 grains—liquor of carbonate of ammonia, 10 drops in peppermint water, in an ounce of camphor julep or water.

Costiveness is to be remedied, if it exists—and the diet regulated.

Costiveness.

It is easy to imagine how important it is to keep the bowels open—yet it is very common to see, that this point is often little attended to. A hardened mass collects in the bowels—irritates the membrane to secrete a quantity of mucus—and slimy stools with pain and griping give an idea, that the bowels are too loose—yet the hardened fæces remain. Chalk mixture has been given for this state—to relieve the irritation caused by the hardness—when the way to cure, was by opening the bowels.

If the bowels threaten to become costive—as shown by the stools becoming harder, and either more scanty or less frequent; let the compress formerly described be first tried.

If it fail—take a hip bath in the morning, at the ordinary temperature in summer, and in winter at 65 degrees—sluicing the stomach with water—then take a short walk.

If this fail, a lavement of warm water or of gruel.

Of milk of sulphur, as much as will lie on a fourpenny piece, put on the tongue, and washed down with a glass of water immediately before breakfast, will often succeed as the most complete imitation of nature. The author gives compound decoction of aloes, or baume de vie as it is called—every night or every night and morning. Stronger pills may be required—but hardly ever be needed, if the lavements be repeated often enough. Strong aperients lose their effect, and require to be given in increasing doses—which do harm by causing irritation.

Diarrhœa, or Looseness of Bowels during Pregnancy.

This looseness of bowels may depend even on a costive *state*, or rather on a retention of the hardened excrementitious matter—but too frequent motions may also depend on irritable bowels in this state. We should see if the

tongue is clean or slightly white, and whether the appetite is good—if so, no medicines are necessary, but merely caution as to diet. But if the stools are liquid, dark coloured, and very offensive—the tongue coated, breath offensive, and there is loss of appetite; then the following draught has been recommended—Rhubarb, eight grains—Ipecacuan, one grain—dill or mint water, one ounce. When the tongue cleans, an ounce or two of infusion of calumba or gentian, or any of the mild bitters—two or three times a day.

If the looseness continue, flannel should be placed round the whole of the stomach and body—a flannel roller will answer the purpose well. Here attention to diet is important—because its quantity and quality should be such, as to leave after digestion, as little residue as possible, to pass through the bowels.

Mild drinks for the first day or two—barley water—or arrowroot without wine—tapioca, sago, and rice gruel afterwards—no solid food should be taken, until the bowels are becoming quiet—then chicken, game, roast mutton or beef may be cautiously allowed. Broths sometimes keep up the local irritability—then rice, wetted only with broth or beef tea.

Fainting Fits and Palpitations.

Fainting is not uncommon during the early months of pregnancy; and may come on, when there has been no previous exertion made, but generally it ensues after exertions. The faintness, with or without consciousness, lasts a longer or shorter time.

The mode of treating it, is by recumbent position—cold water sprinkled on face—smelling salts to nostrils—and cordials. Avoid all causes—hot and crowded rooms—violent exertions, &c. &c.

As to palpitation, it is the reverse state to that of fainting. They may occur at all times—often after meals, or on lying down at night—mental emotions are a frequent cause.

Treatment.—These attacks are very alarming, especially if occurring in the night—when the sufferer thinks herself in a dying state—yet there is no real ground for alarm. Dr. Bull recommends that the following mixture should be always at hand—Compound spirits of ammonia, half an ounce—camphor mixture, eight ounces. Of this, two table-

spoonfuls should be taken, as soon as the attack sets in—and repeated in an hour, if necessary.

The hands and arms should be plunged into water, as hot as can be borne—and Corvisart used to give great relief, by a foot-bath as hot as can be borne, or with a tablespoonful of mustard to each gallon of hot water.

Reassure the patient, that she need not be alarmed.

To prevent these attacks, take for about a fortnight—of this electuary a teaspoonful three times a day—

Of carbonate of iron, one ounce and a half—syrup of ginger, one ounce and a half—taking care to regulate the bowels by extract of colocynth and henbane pills—or by decoction of aloes (baume de vie). An occasional aperient must not be omitted.

Piles during Pregnancy

Are often met with—for costiveness causes them—and costiveness is common at this time; and there is also the mechanical bulk of the womb, which may operate as a cause.

The piles appear as little tumours, within or just without the bowel—and they either become solid and firm, or they break and bleed—or there is a large swelling outside the bowel, large in circumference, separable into distinct parts; "resembling a piece of sponge coloured, and bleeding occasionally from its surface."

The local symptoms are, heat and sense of weight—desire to make water often—discharge of blood perhaps—and if the piles are external, they become irritated by the friction of the clothes, walking, riding, &c. First—clear the bowels—by half an ounce of castor oil—or they may be kept regularly open by this electuary, recommended by Dr. Bull—Of confection of senna (lenitive electuary), two ounces—flowers of sulphur, one ounce—carbonate of magnesia, two and a half drachms. Of this, a dessert spoonful or a tablespoonful, once or twice a day.

A lavement of either cold water, half a pint, or of warm gruel, may be thrown up—whichever may be preferred—only in introducing the pipe of the instrument, care is requisite to avoid irritating the parts. The aperients should be so managed, as if possible, to act towards evening—for then a night's repose and a recumbent position diminish irritability.

The local treatment is according to the local state—if the parts are hot and irritable, leeches, fomentations, hot or cold poultices—frequently renewed.

When inflammation is gone—apply on and around the tumours, every night and morning, some one of either of the following ointments:—

Of powdered galls, two drachms; camphor, thirty grains; lard, two ounces—or, of powdered black hellebore root, one drachm; lard, one ounce.—Mix.

However annoying the piles may be, pregnancy is not the time to have an operation performed—that of tying them, &c.

Some women never get rid of the piles—which began when they were pregnant, and which in ninety-nine out of every hundred cases, would be avoided, if proper attention were paid to diet, and to keeping the bowels properly open.

The importance of having regard to these points can hardly be over-rated—and let every pregnant female keep a jealous watch over these matters—for if once piles are established, she will assuredly rue her misfortune and her fault during, probably, the whole of her remaining life.

Enlarged Veins of the Legs.

This affection sometimes arises during the latter months of pregnancy, but not often—and the veins may become knotty. The pressure of the enlarged womb is the cause.

A calico roller six yards long, and about three fingers wide, should be put round the limb—and rolled from the sole of the foot up to the knee—a spare diet, and open bowels, with more or less rest in the recumbent position, are necessary. If there is local heat, cold water or Goulard water applications will be of service.

Others, complain of swelled legs, during the day—and swelled face during the night's rest. The same treatment is applicable.

Toothache

Is often very distressing—and if the tooth is carious, have it extracted—though this should not be lightly done. *See* Toothache for applications to the teeth—and if the pain of teeth and face assume a neuralgic or tic character—then *carbonate of iron*, a teaspoonful twice a day—with an occa-

sional aperient—washing out the mouth and teeth with warm water, and some common table salt in it.

Salivation.

A good deal of saliva is often formed—sometimes so thick as to cause nausea and retching—acid too attends. Here magnesia about 30 grains, twice a day, and rinsing the mouth often with lime-water are the remedies.

Distended and Painful Breasts

Require fomentations—or sometimes cold applications—Epsom salts every second or third day.

When the breasts are not hot, rub with olive oil an ounce, and tincture of opium, a drachm, night and morning.

Cramps in Legs, or Sides, or Stomach.

These cramps are painful and distressing—walking about will relieve—or rubbing with camphorated oil.

If in the stomach or sides, tincture of opium 20 to 30 drops with peppermint water, and tincture of cardamom 60 drops.

A sitz-bath at 85° every night before bedtime, for ten or fifteen minutes, will often prevent these cramps.

Violent Movements of the Child

Sometimes prevent sleep. Foment with flannel wrung dry and an opiate draught—not letting costiveness prevail.

The Skin of Stomach

Often becomes so distended as to fret, and even crack. Here fomentations—gently smearing with almond oil; and applying spermaceti ointment.

When the size becomes inconvenient, a belt to fit, and to lace behind, is the only remedy—it should press equally, and over the whole stomach, from the pit down to the hips—lying down relieves.

Discharge during pregnancy, like the periodical, may lead to miscarriage without proper care. Here perfect *repose* and lying down, while the discharge is passing *away*—gentle aperients—careful diet.

The Bladder

May be torpid, or it may be irritable—in the first case the water is retained too long—and the obvious remedy is to empty the bladder at regular periods, and never to allow it to become distended. In irritable bladder, barley water or linseed tea should be drank—castor oil given—and one gentleman recommends three or four grains of extract of henbane twice a day, for four or five days.

Sometimes the womb presses so much, that on the slightest cough, &c., the water passes off—here lying down a good deal—and the abdominal or stomach-belt may be worn.

If the external parts become irritated, Goulard water or ice-cold water—and this last will often relieve itching—if not, for itching—apply a lotion of borax, ½ oz., distilled water 16 oz., and cyanuret of potash 10 grains.

Leeches are sometimes necessary—gentle aperients always.

The Whites during Pregnancy.

See Leucorrhœa or Whites—for the treatment—an excessive discharge must be checked—or miscarriage might come on.

Pain in the Side

Often comes on in the later months, never in the earlier. It becomes violent after dinner—then lie down—but it here depends on irritability of the liver, and requires active aperients. Calomel and colocynth—and seidlitz powder or Epsom salts next morning. As soon as offensive motions come away, this pain will subside.

Headache

Is troublesome with some. It may depend on a foul stomach; when there will be furred tongue, bad taste in mouth; or it may depend on fulness of the vessels in the head—when there will be flushed face, dulness of eyes, and giddiness.

For the first, aperients, with warm bath to feet and cold at same time to the forehead. For the latter, *blood-letting* may have to be added.

Jaundice may occur—but it will go off with its cause. Aperients here are also necessary.

Miscarriage—its Prevention.

It has justly been said, that a medical man can do little to arrest miscarriage when the process is once set up—but much may be done to prevent its being set up—and to prevent a habit of miscarrying; and all depends on the prudence and patience of the patient.

The connexion which exists in the early months of pregnancy, between the future offspring and its parent is delicate; and the union is easily destroyed; but this only renders more apparent, the necessity which exists for every possible precaution being taken.

Two hundred and eighty days is the usual term of pregnancy—and the child may be expelled at any part of this period—If this event happen before the beginning of the seventh month, it is called a miscarriage; but it often occurs within three weeks after conception—most frequently takes place between the eighth and twelfth week. Dr. Bull tells us "If during a pregnancy a woman experience an unusual depression of strength and spirits, without any apparent cause—if this is accompanied with attacks of faintness, pains going and coming about the hips, loins, and lower part of the stomach—*she threatens to miscarry.* If these symptoms are after a time followed by the discharge of more or less blood, a partial separation of the child has *already taken place.* If the pains in the loins and hips increase, becoming sharper and more expulsive—and there is a bearing down with a free discharge of clotted bright coloured blood, the *child is altogether separated;* and in fine, if the blighted and dead child is not quickly expelled, thus terminating the whole process, this event may be looked for, before many days elapse; preceded, however, in such a case, by the breasts becoming flaccid, the stomach and bowels more or less disordered, and the discharge altered in appearance, and offensive in character.

Thus, the progress of a miscarriage is marked by the presence of a discharge, its quantity, and subsequent alteration of colour.

Causes.—Shocks or falls—violent exercise or exertion—*violent* purgatives or emetics—excessive mental emotions

—and the force of habit. This last cause is much to be dreaded.

Delicacy of habit, or weakness on the one hand—and a very vigorous, robust state of the circulation, may cause miscarriage.

Treatment is divided into that of the preventive—and that of arresting the miscarriage, when it has commenced.

The preventive is of course to be put in practice, when the female is not pregnant—and after she has conceived. This treatment must be varied, according to the state of the constitution.

In a woman of delicate health, feeble powers, and spare habit, every means should be taken to raise the tone of her health. To strengthen both the general and digestive powers, give a pill three times a day of one grain of sulphate of iron, one grain of sulphate of quinine, and two grains of extract of chamomile or of gentian. After these have been taken four or five weeks, one pill every day one hour before dinner may be taken.

Occasional aperients promote the formation of good blood. The sitz-bath every morning.

Lavements help much in keeping the bowels open—drastic or forcing purgatives are to be avoided; for they irritate the womb and lower bowel.

For diet, one kind of mild animal food, either mutton, tender beef, game, and poultry. Pork, veal, or lamb, is to be avoided. Fish is objectionable, because it leaves a large quantity of excrementitious matter in the bowels—mealy potatoes—well boiled rice, stale bread, or biscuit. For breakfast, weak black tea—or cocoa—brown bread, not toasted, and a new laid egg, are the best—and cocoa instead of tea for the evening. This is the diet laid down by a good authority.

Animal food may, in some cases, be allowed twice in the day; but never in the evening. A glass or two of wine may be permitted at the end of the meal.

An hour or two of rest, not sleep, after dinner. At night a hair mattress, and not a feather bed—and no curtains to the bed, except at its head.

Bathing, or the hip or sitz bath twice a day is excellent—the temperature should at first be 65°, and gradually reduced to 55°. Used at noon and at five in the evening for five minutes—a quarter of an hour's exercise being *taken before* and after each bath.

Change of air in some instances.

Those who have had habitual miscarriage, should take very great care—they should avoid the chance of conception, for full three months after the last miscarriage—because in that time the patient's health should be re-established; and if the foregoing rules be observed, be re-established in better state than before. Then, if pregnancy again occur, redouble all precautions, keeping the bowels open—using the bath—looking to the digestion, secretions, and excretions—and avoiding all undue excitement of mind or body.

When the usual time for miscarrying approaches—the patient should lie down more than before—and continue to do so, for five or six weeks after the usual miscarriage time has passed; by which time the patient may be safe.

In some of these cases, the author has met with the coincidence of a discharge of more or less of whites. He has stopped this by the mild injection of sulphates of zinc and alum—whereby such strength and local tone have been imparted, that he believes the injections, aided by the married pair keeping separate beds, have enabled the patients to go past the miscarrying time, on to their full period.

When miscarriage threatens a female of full, plethoric, robust habit—we must avoid stimulants and tonics—and gently lower the excessive action which prevails. Gentle saline aperients, the tartrate of potass—no bitter infusions—no wine, nor malt liquor should be allowed—but rest in cool rooms—avoiding heat on all occasions. The diet must be sparing. Sitz bath as before—or cold salt water baths.

Injections of cold water, or cold sea water—but, as before observed, the female syringes ordinarily used, are objectionable; because the pipe must be often withdrawn to refill—so, a four-inch gum elastic tube ought to be substituted for the common ivory tube of the lavement pump, and of about half an inch in diameter. Several holes should be made in the point, which must be rounded off.

When miscarriage seems to have already begun, and to be in the first stage, previously described; the recumbent position must be constantly maintained—on a cool horse-hair mattress or bed—the diet must be sparing—toast and water—thin gruel—lemonade—sago—tapioca, &c.—with Epsom salts. When the symptoms of the second stage *come* on—and even here miscarriage may be averted—*strict* rest—linen dipped in cold or in ice cold water to the *parts*—perfect abstinence, and Epsom salts. With these,

fifteen drops of dilute sulphuric acid in one ounce of infusion of roses, with some syrup, may be given every four or six hours.

After all miscarriages, the sufferer should keep the recumbent posture for a week or ten days—for, if she do not, and rise from her bed in a day or two, the womb being still large and heavy—will fall down—forming prolapse or descent of the womb—or else there will be a white discharge more or less profuse.

To sum up, with respect to miscarriage—we may say that if all is done that should be, during the first stage, a female ought not to miscarry—and during the second stage, there is hope to be entertained, which may be realized—but in the third, all means of prevention are inefficient to avert the miscarriage.

Of Calculating, when Labour may be expected.

The duration of pregnancy, it is now pretty generally agreed, extends to two hundred and eighty days.

But the main question is, to ascertain when conception took place. It is considered the surest way to allow 280 days, from the day *after the last day* of the woman being unwell. Thus we are told a lady was taken unwell on a certain day, and continued so three or four days—add one day more to these three or four days, and reckon 40 weeks, or 280 days from that time.

Ladies should always make a mark in their almanacks—a cross will do—to point out when they menstruated, and another cross would note, when the period ceased. This should be done both by married and single—its utility is obvious to the former; and to the latter, it shows whether the periodical discharge is becoming more scanty, and does not last so long as before. Yet, for want of doing this, many a lady, when asked the important question—when were you last unwell? is obliged to reply, that she does not know—having forgotten. It does not come within the author's scope, to give directions how the labour is to be managed—they must be sought for, in books, written professedly for the purpose. But he will direct here, how the cord of the child is to be secured, if the infant happen to be born unexpectedly, when no medical man is at hand. Make two ligatures, each consisting of half a dozen threads of coarse thick cotton. Bring *the cord within* view, without exposing the mother. With

the first ligature, tie the cord about three fingers' breadth from the child's belly—and place the second about three fingers further still from the child—and use just enough force to secure; but not to divide or cut through the cord with the ligature. The navel string may now be cut off with a pair of scissors between the two ligatures; and the child taken away.

Sore Nipples, after Delivery.

These often occasion great distress, which may be avoided if the directions which have been given in previous pages have been followed, for five or six weeks before delivery. Some advise the infant to be put to the breast as soon as possible; but, as in first pregnancies no milk is secreted until after the third day from delivery—it had better not be done, since it can only irritate the nipples, and render them unfit for use. After the first child-bearing, the infant may safely be put sooner to the breast.

The child should not be allowed, to have the nipple constantly in its mouth during the night—besides injuring the nipples, the child may suck too much.

But if after two or three days, the nipples seem to be likely to give trouble, a shield must be worn, and Wansbrough's metallic shield, sold by Weiss, in the Strand, is recommended as the best—to be worn during the acts of nursing—care to keep it clean being taken.

If, notwithstanding, the nipples crack or become painful, hot, and dry—but not chapped; apply a bread and water poultice, every four or six hours, and foment until the pain and heat give way. But should the nipple become cracked just at its base, it will bleed when the child sucks. Here shields of ivory, glass, wood or silver are recommended. They should exactly fit the parts—since one too small would compress the nipple; and one too large would allow of a vacuum being formed, to the prevention of drawing forth the milk.

The shield should be covered with an artificial or prepared cow's teat—which enables the child to suck it, without biting or irritating the nipple.

The extremity of the teat should not project beyond the shield more than half or three-quarters of an inch—if *longer*, the child will get the teat between its gums and *press* the sides together—preventing suction. The teat *should* exactly cover all the orifices, to which it is stitched.

Dr. Bull recommends a shield with a cork nipple for a prepared teat. The nipple shield is made of ivory or boxwood, with a small ivory tube for the passage. The cork nipple is placed upon the ivory tube; and is secured to the shield by means of a small collar, which screws over the nipple. The cork is supple and elastic, and answers the purpose better than any other.

Thus, the metallic shield is worn between the acts of nursing—the other is put on for nursing.

Applications to cure these excoriations have been mentioned in former pages—but the author has never failed with the benzoin ointment or lotion. There are other applications—such as sulphate of zinc, 4 grains to an ounce of water—or, 2 grains of sulphate of copper to an ounce of camphor julep—or, 1 grain of nitrate of silver (called lunar caustic,) to one ounce of rosewater.

If these fail, the cracks may be touched with the caustic itself; and kept smeared or covered with an ointment, composed of 2 drachms of honey and 1 ounce of spermaceti ointment; or 30 grains of Peruvian balsam, with 1 ounce of spermaceti ointment.

Wash the nipple before and after suckling, with a little milk and water; and if one nipple alone is affected, let the child be suckled with the other.

Prevent pressure by constantly wearing a glass, made for the purpose, or by any other contrivance.

Excessive, or Uncontrollable Flow of Milk.

Here the milk tubes may have lost their elasticity, and with it their power of retaining the milk—thus there is a constant draining of milk from them.

It is difficult to manage this defect—a lotion of 1 drachm of alum to a pint of spring water—or, 30 grains of the sulphate of zinc in a pint of decoction of oak bark, may be applied—but always wash away the lotion before suckling.

If these fail, let a glass be worn to receive the milk—and if the mother's health begin to suffer from the constant drain, then the child must be weaned; and the sooner the better.

Bad Breast, or, Milk Abscess.

Medical men would not meet with so many cases of *bad breasts as* they do, if suckling mothers would but

consult them in time, when any threatening of inflammation in the breast appear—such threatenings require very prompt attention.

This inflammation terminating in abscess, may occur at any period of nursing—but it is usual within a month after delivery; though it may be excited with the first coming of the milk.

In this latter case, about the third day after delivery, the breasts become hard, swollen, and painful—they increase in size, become knotty or lumpy, very heavy, and very tender. If they be fomented and pressed gently—now that the milk is "at its height," a small quantity of milk, will be seen to ooze from the nipples. The act of suckling causes pain, but soon great relief follows—and as the milk flows, the size and hardness of the breasts diminish.

But the nipple may be flat—or from some other cause or mismanagement, the milk is not drawn away—then a bad breast is threatened. To prevent this—give saline aperients; tartrate of potass 60 grains every four hours, until the bowels are open enough—effervescing saline draughts to assuage the thirst, but no other drinks—foment the breasts every third hour for five minutes, with flannels wrung out of warm water—then rub gently, or smear rather with a liniment, composed of an ounce and a half of soap liniment, and 3 drachms of tincture of opium, then apply a large warm bread and water poultice—supporting the breasts always by a suspensory silk handkerchief; after some six-and-thirty hours, relief will be experienced, and milk found in the poultice—then draw the breasts gently by an attendant, or by means of a breast-pump—after this, the suckling child may be put to the breast.

The bad breast which occurs three or four weeks after delivery, is often occasioned by exposure to cold, or by the stays pressing, or by sore nipples. Now, as soon as any uneasiness and heat manifest themselves, or a lump is forming in the breast, or the child can no longer make the milk flow—lumps will form in the breasts; and the milk be suppressed.

No time is to be lost—apply leeches—give saline aperients—order a low and dry diet—suspend the breasts—gently rub the parts with the soap and opium liniment, and draw the breasts occasionally—Six or eight leeches may be applied several times, so long as the pain returns.

The aperients ought to produce two or three watery

motions every day. To apply the liniment—warm a little of it in a saucer on the hob, then gently rub it over the breast for four or five minutes; then take a piece of flannel, the size of the breast, cut a hole in it for the nipple, soak it in the liniment and put it over the breast, covering it with oiled silk, to prevent evaporation. Repeat this every three or four hours—no poultices at this time. Drawing the milk is not to empty the breasts, but only to relieve distension—so, a certain quantity only is to be taken away. Keeping the breast from hanging down is important.

The patient should lie in, or on the bed, or on a sofa.

If these means fail, an abscess forms—then throbbing will be felt—apply poultices; and as soon as matter is formed, it should be let out.

In some cases, which have been neglected, the author has seen young mothers who have sought relief for breasts, in which several holes existed, leading to one or more abscesses,—and their constitutions have evidently been scrofulous. The quantity of matter discharged, and the preceding pain, &c., have usually much exhausted such mothers. Here the author has met with the greatest success, from applying the alcoholic solution of iodine,—its strength should be that of twenty grains of pure iodine to one ounce of spirits of wine. This is to be painted by means of a camel hair brush, over the distended parts—avoiding the nipple and the discharging apertures—over which last, some lint, spread with spermaceti ointment, may be put. The swelling and hardness rapidly disappear, and the matter ceases to flow, after a time. The painting (if it may be so called) should be done night and morning; but if that be too frequent—which may be known by the skin shrivelling and threatening to scale off,—once a day will be often enough, and even not so often in some constitutions, where the skin is very delicate and irritable. If, on looking at the breast, we find the brown walnut-juice-like colour, strongly tinging the skin,—fresh iodine need not be applied—but merely wet the part by painting it with simple spirits of wine.

The child should not be allowed to draw the breast, if the matter of the abscess is mixed with the milk—or if much of the bosom be involved in the disease.

The milk generally soon returns to the breast,—if not, *the child must* draw its nutriment from the other.

Sometimes a hardness remains, which alarms many mothers, who dream of cancer immediately; yet such hardness may be safely left to nature—or gentle frictions twice a day with soap liniment will help; but if the iodine have been used, every particle of hardness is at last dispersed—or if not, by continuing the iodine, it will soon disappear.

After Pains.

After delivery, what are called after pains may be violent; but they should not be too soon meddled with, as they effect a salutary purpose,—still if they should be too violent, they may be checked by fifteen drops of tincture of opium in some water. They continue usually, off and on for about forty-eight hours. The patient, if any soiled linen is to be removed, must on no account be permitted to sit up in an erect position for one moment.

It is presumed, that a proper broad bandage has been put on before the labour commenced—the breadth should be such as will extend from the chest to the lowest part of the stomach. A new towel, that is large enough, will do—and this should be worn loosely during the labour, as it would derange too much to have to put it on afterwards.

The room must be darkened—no conversation allowed—and sleep must be sought for, by the newly delivered lady. An attempt to pass water should be made some seven or eight hours after delivery—and if there is any difficulty, warm flannels, wrung dry out of hot water, should be applied. No one must be deceived by a few drops only passing—as may happen—the bladder should be emptied.

On the evening of the second, or morning of the third day, some aperient should be given—and castor oil is the best—a tablespoonful of which should be poured upon a two-thirds filled wineglass of milk, coffee, or mint water. If necessary, this must be repeated in four or five hours. Or what is preferable, an injection of two tablespoonfuls of castor oil in a pint of gruel or barley water, may be thrown up.

As the recumbent position induces confined bowels, they must be watched.

A discharge takes place from the parts, which usually continues two or three weeks, though it varies as to quantity and duration. It is reddish at first—then greenish, yellow,

and at last resembles soiled water. If this should ever suddenly stop, attention must be paid, as to whether cold has been taken, or inflammation set up. In this discharge, an injection into the front passage should be ordered of tepid milk and water—three or four times a day for the first week, and gradually left off.

This discharge may become too profuse, and affect the health and nursing—then a slight injection of alum and tepid water will check it.

Cleanliness is essential throughout, but the linen must be well aired. The milk in a first confinement comes into the breasts about the third day—the infant may however be sooner applied to the nipple. There may be slight pain at first, which soon ceases; and the previous knotty hardness of the breasts, if any have formed, will soon go off. The infant should be put to the nipple within the first twenty-four hours; as soon as the mother has had a sleep; this is done in order to draw out, and form the nipple for suckling, to excite the secretion of milk, and to prevent the knotty hardness, which might otherwise arise.

If the breasts remain hard and knotty, and the child cannot suck, rub the lumps with warm almond oil, and foment assiduously. The recumbent position should be maintained for the first two weeks rigidly, and occasionally for the third week. Even sitting up, with the legs on a level with the body should not be allowed—much mischief has so been done; and with the poorer classes, where the women are obliged to get up sooner and go to work—prolapse, or coming down of the womb, is a frequent consequence.

The bandage around the stomach, of which we have spoken, has been tightened according to circumstances; but a properly adjusted belt must be substituted, when the patient begins to move about; and the belt should be worn so long as the muscles of the stomach require support.

Diet for several days after delivery should be small in quantity, and simple in quality. Coffee in the morning—a light pudding for dinner—and coffee or tea for the evening—with gruel in moderation between times, if desired. On the fourth or fifth day, the wing of a chicken or a mutton chop may be eaten, with equal parts of barley water and milk for beverage. About the fifth day, the *patient may recline* on the sofa; but she must be moved

without any exertion on her part,—nor should she dress herself—putting on stays, &c. If it is winter time, bed should not be left for a few days later.

The ninth day is considered by many nurses as a critical day—but it is no more critical than any other; and the idea would be as harmless as the day itself, did it not excite an anxiety which might lead on to mischief.

After the tenth day, the accouchée may be wheeled into an adjoining chamber, still lying on the sofa.

As to what drinks the nursing mother should have, we will quote an experienced midwife's opinion with respect to wine or beer. "I am daily more and more convinced, that a healthy woman is better without either, both for herself and her child. Her own health will be less likely to be deranged; her own feelings and sensations will be infinitely more equal and comfortable; and the milk secreted in her bosom, will be more pure and nourishing—and as a consequence of all this, the child will thrive and flourish better without the stimulant, than with it." He recommends the barley milk above described, as the best beverage for mother and child—so long as the mother cannot take active exercise in the open air; but to those who are weakly, the bitter ale may be useful. In such cases we may try it,—if no disturbance ensue, we may continue to allow it.

Washing the child the first time, is an important operation,—for lamentable consequences have ensued, where it has been entrusted to ignorant, unreflecting minds.

The body of the child at birth will be covered with a white, greasy, curd-like substance—particularly about the eyelids, groins, armpits, and various folds of the skin. This adheres very closely, and is difficult to remove; yet if it be allowed to remain, it would become hard from drying up, and cause much irritation. We dare not rub, except in the most gentle manner,—the skin of the infant easily excoriates. Water will not act upon it, and soap has very little effect,—but lard renders it soluble. Smear then the whole of the body with fresh lard; then put the child into warm water (from 96 to 98° of Fahrenheit,); and after five minutes, with a fine sponge, sponge the child while still in the bath, with the least irritating soap *that* can be got. If the whole cannot be removed, leave *the* obstinate remainder to a second washing. Warm *water* must always be used—to an infant which up to

nearly that moment, has been used to one uniform degree of temperature.

The same accoucheur, who recommends us to act in this way, cautions nurses to wash the infant in the bath, and not on the lap; for its bones are soft, and incapable of sustaining its own weight, in anything approaching to an erect or sitting posture. In Germany, a bath is used, well adapted to this purpose; it is made of wood, oval in shape, with a raised portion at one end for the head; and deep enough to contain a quantity of water just sufficient to cover or float the child; and yet none of the dirty water of the bath should be suffered to touch the eyes.

Sometimes there is no milk for the child, until the third or the fourth day after delivery; then we may give of asses milk and boiling water equal parts, or of cow's milk one third and boiling water two thirds; slightly sweetening the latter with loaf sugar. A few spoonfuls of one or other of these are to be given through the sucking bottle, and not from the boat or spoon; to avoid over distension of the infant's stomach, for the infant will not suck too long.

For the first week or ten days—the infant requires frequent suckling—but from the tenth day until the end of the lying-in month, it may be nursed every four hours.

After the lying-in month—night nursing should be done away with—the child should be suckled at ten o'clock at night, and not again until five the next morning—unless the infant is particularly feeble,—when so long an interval cannot be borne.

When the first teeth appear, the mother will require probably some help; and artificial food may be given twice in the course of the day, without any injury to the child. Good fresh cow's milk with or without water—tops and bottoms—sago or arrowroot made with milk—or if these disagree, weak beef-tea, veal or mutton broth, clear, and free from fat, mixed with an equal quantity of farinaceous food, and a little salt may be given. The child should never receive its food lying—the head should be raised.

Weaning.

Weaning the child, should take place by the ninth and not later than the twelfth month; unless peculiar circumstances demand, that it should take place sooner or later.

The weaning must be gradual; by diminishing the number of times every day, for suckling the child.

Drying-up the Milk.

This may become necessary from the death of the child, or the impossibility of suckling; and it is usual to apply cold evaporating lotions—these however may prove dangerous—and the safest application is, liniment of compound soap liniment, three ounces: tincture of opium, one drachm; camphor liniment, one drachm—or if this be too stimulating, use the compound soap liniment alone. Apply one of these, warm; covering the linen or flannel with oiled silk. We should besides gently rub the breast, for eight or ten minutes, every four hours or thereabouts, with warm almond oil.

We should not empty the breasts—for fresh secretion is encouraged; but if the distension and hardness are very great, they may be partially emptied. The bowels should be rather free—wherefore a saline aperient should be given every morning, to secure this effect. The diet must be scanty—little or no drink, but only solid nutriment allowed. The mouth may be washed out with toast and water, or a little fruit may be allowed.

As to drying up the milk, at the regular time of weaning, the mother has been prepared, by the child having been artificially fed for some time; but if the breasts give trouble, act as above stated. Aperients must not be neglected at this time.

About the sixth or seventh month, when the teeth begin to appear, the artificial food may be increased in quantity and strength. Cow's milk, pure and undiluted, with farinaceous food—and when the grinding teeth begin to appear, beef-tea, chicken, mutton or veal broth, once a day—but the broth must consist, of a pound of lean beef cut into small bits, and then be macerated in cold water for three hours, and slowly heated to boiling, then boiled for a couple of minutes and strained. A portion of soft-boiled egg may be tried, or a small bread-pudding with one egg in it, for dinner, may be given. Some give animal food, at this period—but it has been appositely said, that "the practice of giving animal food to a toothless child, is not less absurd than to expect corn to be ground, where there is no apparatus for grinding it."

From the sixth month to the end of the second year, teething is going on; and consequently irritation is easily excited—wherefore we cannot be too cautious about the diet, for by due attention to it, we may frequently prevent the formation of annoying eruptions, of the thrush, diarrhœa, rickets; and may even check scrofula from manifesting itself.

If food disagrees, diarrhœa arises, or flatulence and gripings, we should not immediately resort to medicines, but try first what change of food will do—for instance, Dr. Bull says, diarrhœa may be checked by giving some sago, thoroughly boiled in very weak beef-tea, with the addition of a little milk—or by two-thirds of arrowroot with one-third of milk—or, for a few days, arrowroot made with water only. Costiveness may often be removed, by changing the food to tops and bottoms steeped in boiling water, with a small quantity of milk added—or Densham's farinaceous food (a mixture of three parts of the best wheaten flour and one part of the best barley meal) is useful, on account of the laxative influence of the barley. A tablespoonful is to be mixed with a small quantity of cold water, add half a pint of boiling water, constantly stirring—boil eight minutes, strain, add a small quantity of unboiled, pure, fresh cow's milk, a little loaf sugar, and a few grains of salt.

Flatulence and griping usually are caused, either by too much food, or by food over-sweetened, or by its not being fresh prepared for every meal. The remedies are obvious—but we had better give, in these cases, weak chicken broth or beef-tea, freed from fat, and thickened with soft-boiled rice or arrowroot—but above all things, we should always try what change of diet will do, before giving any of the nursery medicines—the grey powder, calomel, rhubarb, &c., which some mothers are too fond of administering.

We will now, to close this part of our subject, advert to various morbid states, which often put the puerperal patient's life in danger—and first, of—

Puerperal Peritonitis, or Inflammation of the Membrane lining the Bowels and the Abdomen internally.

On the second, third, or fourth day after delivery, a *severe shivering* comes on; then an acute pain in the

abdomen is felt low down. This pain is constant; sometimes increased—but it is always increased on pressure, and by any movement of the muscles of the stomach. The milk and the discharge are checked—if not stopped altogether—the skin is hot—pulse small and frequent, in others, full, and bounding up to the fingers—the tongue furred,—the head aches,—the countenance is high coloured,—restlessness and sleeplessness—vomiting occasionally—breathing hurried and anxious. As the disease progresses, the abdomen becomes tense, like a drum—the fever increases, delirium supervenes,—the tongue becomes dry and brown, the teeth covered with dark stuff, as we see in typhus—other symptoms come on, and precede a fatal termination. The causes are contagion, and those of inflammation,—and it is at times epidemic.

Treatment.—Almost the sole chances of recovery are derived from early treatment; and the epidemic being of a mild character.

If seen during the shivering, hot fomentations or poultices over the stomach. Three grains of calomel, with as much James's powder, and half a grain or a grain of opium should be given; and in two hours, an ounce of castor oil, or some salts and senna. Warm water lavements; and also injections of warm water into the front passage, two or three times a day.

If the fever is not very high—the pain not great—leeches should be applied, and we need not bleed from the arm; but if the symptoms run high, one or two bleedings from the arm may be necessary; and we must then rely on 4 or 5 grains of calomel, with 5 of Dover's powder, every third, fourth, or fifth hour, till the gums are affected,—when amendment and recovery usually follow.

When the hot skin yields, and the abdomen remains distended, with sinking of the strength, cold legs, weak pulse, and little or no pain;—do not despair; but give stimulants,—wine, brandy, and ammonia, freely administered. (*See* TYPHUS FEVER, p. 129.)

MALIGNANT PUERPERAL FEVER.

Shivering not so marked as in the foregoing, — the pain less severe, deeper seated, more circumscribed, the pulse small, rapid, weak, numbering from 130 to 160 in the minute—skin yellow—anxiety, mind wandering—tongue white, then yellow, then brown—vomiting, hiccup

diarrhœa—the motions are very offensive,—the usual discharge is of bad smell, or is altogether suppressed,—delirium—drum-like stomach.

Treatment.—Similar to the foregoing—only bleeding is hardly ever necessary—leeches are useful—fomentations—the calomel, antimony, and opium powders. When collapse or sinking comes on, stimulants and support.

Convalescence is often protracted; and in some cases, deposits of matter take place in various parts—in the joints, in the womb, in the eye. Strong broths, jellies, wine and cordials must be given early in this fatal disease, even while we are applying leeches,—and the disease attacks so insidiously that we should take alarm, and be on the watch, when we find the pulse keeping up above 100, for some days after parturition.

Puerperal Intestinal Irritation.

General uneasiness, if the bowels have been neglected—loss of appetite—tongue furred—chills, then flushes—headache—frequent pulse—abdomen large and tense—deep-seated pain, but slight, and *relieved by pressure*—vomiting—diarrhœa—all evacuations offensive—stools dark, slimy, or watery—flatulence—badly smelling breath,

Treatment.—Empty the bowels by castor oil or Epsom salts and senna—enemata (clysters) of warm water—the grey powder three grains, with three or four grains of Dover's powder, every four hours. For diet; arrowroot, gruel, broth, jelly, milk, with soda or seltzer water, is grateful. Nourishment but not stimulus, unless signs of sinking come on.

False Puerperal Peritonitis.

This occurs in delicate nervous females, after severe after-pains, and sometimes after an active purgative. There will be slight shivering; pain and tenderness of the abdomen; tongue slightly coated; pulse rapid but soft; skin not hotter than natural, or but little hotter; no anxiety of countenance; strength not much impaired.

Treatment.—Fomentations—poultices—sweating medicines—opium, with mild laxatives occasionally. Five to ten grains of Dover's powder, every four or six hours; or *twenty or thirty* drops of tincture of opium, and repeated, *if necessary.* The attack seems allied to hysteria.

Milk Fever.

In all lately-delivered women, after or about the third day, there is some disturbance of the nervous and vascular systems.

Shivering occurs; then pain in the head, with throbbing; light and sound annoy; the pupils of the eyes are contracted; countenance flushed; pulse frequent, full and hard; skin hot and dry; tongue dry and coated; thirst excessive; the milk is no longer secreted; the breasts become flaccid; delirium sometimes sets in.

Causes.—A heated atmosphere—undue exertion—mental agitation—excessive use of stimulants.

Treatment.—We must subdue excess of action—by aperient medicines; saline medicines, with the sixteenth of a grain of tartar in each saline draught, every four hours; low diet; rest of mind and body; cool air; and diluting drinks.

If symptoms are severe—bloodletting; tartar emetic, 1 grain in 6 oz. of water, a tablespoonful every four hours. If a feeling of sickness ensue, discontinue the medicine; mercurial purgatives — such as calomel and colocynth pills; 2 grains of calomel and 6 of colocynth; cupping or leeching the head or temples; cold lotions to them; hot water to feet, or mustard foot-baths. Draw off the milk gently, and foment or poultice the breasts: also apply the child to the nipple, to stimulate secretion.

Our treatment of all these disorders is based upon general principles. Inflammation is to be subdued, whenever it exists; the strength is to be supported, when it is failing, by stimulants, &c.; and where there are nervous symptoms, much pain, irritation, or restlessness, opiates must be resorted to.

SECTION VI.

DISEASES OF CHILDREN.

A HEALTHY child has all the parts well rounded; and it has been observed that, whether the limbs are bent or straight, every line forms a portion of a circle; no muscle can be seen through the skin, nor the joints be found easily, except by observing the bending of the limb.

Whenever the joints can be seen, the child is not in health; and if the anterior part of the chest is raised, while the sides are sunken, it is a sign of ill health; if the belly project too far, and is too full or hard, there is disease probably; also, if it is concave or sunk. The child should be neither too fat nor too lean.

Drawing up of the legs towards the body, with crying and pain or local tenderness, are signs of disease.

A young child in health seldom raises its hands above the mouth; when it does, there may be too much blood, or some disease in the head and face.

Starting from sleep, or starting when awake, portends disease; though it may be caused by irritation of stomach or bowels—easy to be removed.

The eyes should be clear and lively, and not thrown upwards: if children cast their eyes upwards, it is probable that opiates may have been given them; and if the eyes have gained the habit of being directed to the same object, and they afterwards lose that power, disease of the head is not unlikely to come on.

Contracted pupil shows irritation.

The stools, again, are indicators of disease. The natural motions are two, three, or four, in every twenty-four hours, and the natural colour is a light yellow. The first which pass after birth are generally black; if they are green, white, or clayish coloured, or mucous or watery, there is irritation in the bowels.

It has been said, that the infant's first motions are dark or black, consisting of what has been called meconium, *and the retention* of this is considered to be so prejudicial,

that castor oil or calomel is forced down soon after birth. This practice is injurious, and in respect of calomel especially so; because such a drug as calomel, must irritate the tender and highly sensitive bowels of the newly born infant.

Castor oil is not so irritating; and when the abdomen (belly) of the child is full, and no evacuation has taken place for five or six hours after birth, half a drachm—that is, thirty drops—of castor oil may be given: before that period of six hours, it is better not to disturb or irritate its stomach, by any medicine whatever.

The mother's milk has been said to possess a purgative quality; but it is probable that it acts and excites, by merely mechanical distension.

The child should not be applied to the breast, until there is an appearance of milk in it, which often happens after ten or twelve hours' rest. And during the first five or six months, the infant must be suckled during the night as well as day; but at regular intervals of four hours.

The child should not be suffered, to retain the nipple in its mouth.

The mother is able often to supply milk enough for the first seven or eight months; but after that time, the infant would be insufficiently nourished, if it depended on the mother alone: then food must be given; for the child must not want nourishment that will agree with it.

If the deficiency of food can be supplied by artificial food, without the infant suffering, no further change is necessary; but if this cannot be done, a strange nurse must be employed.

Great care must be taken in the choice of a nurse: she should be examined, so that no unsoundness or defect escape detection. She should not be too old, and the more recently she has been confined, the better; and if she has had one or two children it will be all the better; because she will probably have more milk secreted.

If we are forced by circumstances upon artificial feeding altogether, great care is required.

The best substitute for human milk is good cows' milk; but as it is thicker and whiter, and not so sweet as human milk, we must add to two parts of it, one of very thin barley water, and sufficient white sugar to make it sufficiently sweet.

Asses' milk, again, approaches more nearly what we re-

quire; but it is richer, and requires to be diluted with about a third part of water. This can be used, if the cows' milk disagree.

As the child becomes a little older, thin bread pap may be given; and occasionally some light beef or chicken tea. Thin bread pap is made by steeping soft bread in hot water, with the addition of a little sugar and fresh cows' milk.

The spoon is the best vehicle—better than the sucking-bottle—and the child must not be placed horizontally on its back; but its head should be kept elevated, and its actions carefully attended to; so that we may know when to stop, the moment it appears to be satisfied.

The food will require to be varied, since one kind may agree well with the infant, at first, but may, after a little while, derange the bowels; producing gripes, acidity, and purging, or costiveness. Prepared barley, with water and unboiled or boiled milk, or arrowroot, can be given.

One rule requires strict attention—to keep the bottle, if bottle be used, or whatever is used for this purpose, very clean. It is of great importance to prevent acid fermentation in the child's bowels.

Every kind of food should be given tepid or lukewarm.

MEDICINES FOR CHILDREN.

The quantity in which medicines ought to be given to children, differs very considerably from the doses taken by grown up persons. These doses are to be regulated chiefly by the respective ages; and the following table has been constructed, which may be received as a guide. If we suppose the dose for a grown-up person to be sixty grains, or a drachm; then the quantities are thus graduated:—

Table for Doses.

Let the dose for an adult represent	1	say	1 drachm.
„ for a child 7 years old	$\frac{1}{2}$	„	1 scr. or 20 grs.
„ „ 4 years old	$\frac{1}{4}$	„	15 grs.
„ „ 3 years old	$\frac{1}{5}$	„	10 grs.
„ „ 2 years old	$\frac{1}{8}$	„	8 grs.
„ „ 1 year and under	$\frac{1}{12}$ or $\frac{1}{15}$		5 or 4 grs.

But it is a good practice to give medicines in divided doses, so as to insure the result, neither more nor less.

Opiates, if ever given, demand close watching; and purgatives must be quickly repeated, or much time may be lost.

They should be given either in a liquid form, or in that of powder; and those should be selected, which are most free from nauseous taste or smell. Sugar or syrup may be added. Powders should never exceed in quantity ten grains, on account of the bulk. The dose of a liquid is from a teaspoonful, or a drachm, to that of a dessert-spoonful, or two drachms.

Alteration of diet will often supersede the necessity of giving any medicines at all; and this should be always attempted. The infant cannot exist many hours without food —it must not therefore be left too long, without some kind of sustenance. During febrile or inflammatory complaints, barley-water, whey or thin gruel should be given—the breast-milk even, may be too stimulating, and will require to be mixed with water; or lighter drink must be given, but at short intervals.

If considerable debility be present, the diet should be more nutritious.

Mercury.—Mercury, which given in sufficient quantity will salivate almost any one, does not seem capable of salivating an infant.

We cannot therefore administer this remedy to salivation when we willingly would do so, as in cases of croup, inflammation of the brain, &c.; and this is the more to be regretted, on account of the natural irritability of a child's stomach and bowels preventing us from using another medicine, which powerfully controls inflammation—the tartar emetic. Mercury, however, is still of great service; probably by its influence over the secretions. Calomel is a very useful remedy in the hands of the medical practitioner; but it should be given with caution by any one else. Yet some mothers seem to think it, almost a remedy for every disorder in the child. Calomel acts very speedily on the secretions; and the motions soon give evidence of its power, by their unnatural appearance. They at last become of a greenish colour; and these green motions are called bilious motions—the green being derived from the vitiated bile—which doubtless, say the mothers, was doing, or was about to do, much mischief. And then, more calomel is given, in spite of the griping—the drawing up of the child's

legs towards the abdomen—of the local heat or tenderness, —and a state of inflammatory irritation is brought on.

That this statement is correct, any mother may convince herself of, by discontinuing the calomel—and if inflammation of the bowels have not already been excited, the motions will reassume their natural appearance; and all signs of local suffering will cease. The greenish appearance can soon be altered by giving a little carbonate of potash or soda two or three times a day, in some dilute dill water.

The dose of calomel is from one-fourth of a grain to two grains; and it is usual to give some castor oil, or other aperient, in two or three hours.

The powder called grey powder, consisting of mercury with chalk, or with magnesia, is a very useful form of medicine for children. In diarrhœa it may be combined with Dover's powder. Dose for an infant is one grain, and for a child two years old, two grains.

The Aromatic Spirit of Ammonia acts as an antacid and stimulant. Flatulence and acidity are relieved by it; and whenever there is debility or exhaustion from fever, erysipelas, convulsions, &c., we shall find it a very useful remedy.

Dose from two to eight or ten drops, in water, or in dill water.

The Carbonate of Ammonia, or *Smelling Salts*, is another form of ammonia; and useful for purposes similar to those, requiring the spirits of ammonia. Dose—one grain to an infant under one year old, in syrup and water; two grains if older, up to three or four grains.

Antimony may be given to excite sweating or vomiting; according to the dose. James's powder is very valuable in fever, and so is tartar emetic in various diseases—croup and inflammations. One grain of James's powder to a one year old infant, two grains to one of two years of age, and three grains to older children. Give it in treacle, syrup, jelly, or gruel. The dose of tartar emetic is from one-eighth to one-sixteenth of a grain. Its action is followed by depression; hence its use in inflammations. If irritation exist in the stomach and bowels, we must not give it.

No. 178. *Antimonial Emetic Mixture.*

Of Distilled water	1½ oz.
Tartar emetic	1 gr.
Simple syrup	½ oz.

Mix. Here one drachm, or about a teaspoonful, contains

the sixteenth of a grain, and give one, two, or three teaspoonfuls every quarter of an hour, till vomiting occurs. The action will be more certain and less violent, if half an ounce of ipecacuanha wine be added.

Some children cannot be made to vomit.

Camphor.—This exhilarates, and causes perspiration; but many do not like to give it to children. Camphor mixture, or camphor julep, is the form—a tablespoonful to a child two or three years old.

Castor Oil is particularly useful. The bowels are left relaxed. 30 to 60 drops the dose, with a little sugar.

No. 179. *Castor Oil Emulsion.*

Of Castor oil	1 oz.
Burnt magnesia	2 drachms.
White sugar	3 ,,
Oil of aniseed	2 drops.

Mix. One or two teaspoonfuls to a child one or two years old; and repeated if necessary.

Chalk.—Prepared chalk, or the compound chalk powder, is a very useful antacid; and whenever the motions are too free, or greenish, or of a green colour, 3 or 4 to 10 grains, mixed with sugar, gum arabic, and water, will relieve. The green colour is supposed to arise from the action of the gastric juice upon the bile; and such stools do not demand calomel. Eruptions on the skin are usually mixed up with, or arise from acid in the stomach; and chalk will do good. There is a good compound chalk mixture ordered in the London Pharmacopœia.

Compound powder of chalk is one form in which to give chalk, dose 2 to 5 grains.

Hop relieves pain and calms irritation; and since it is so very dangerous to give opiates to children, this hop may prove a good substitute for opium—at least, it ought to be first tried.

Of tincture of hop, give 5 or 6 drops, to children of two or three years of age. Of the yellow powder, called lupulin, 3 or 4 grains may be given in currant jelly.

Iron is a very useful remedy; and when given in the proper cases, to pale, flabby children, it adds to the strength and comfort without causing any excitement. The wine of iron is as good a preparation as any for children; of which, a drachm may be given two or three times a day, in water, to a child two or three years old

but 2 or 3 teaspoonfuls may be given, as the age increases on to thirteen or fourteen.

The tartrate of iron, which has but little of the peculiar taste, and which is very soluble, is often given to children.

No. 180. *Chalybeate Powder.*

Of Tartrate of iron and potash 2 grs.
Aromatic powder . . . . 1 gr.
Sugar powdered . . . . 2 grs. Mix.

Thrice daily.

Iodine is a tonic; and may be administered to the youngest child. The tincture of iodine may be given—5 drops in some sweetened water, only adding the sugar at the time of taking; for else decomposition may ensue. Or the compound solution of iodine may be given to a child about seven years old, from 15 to 40 or more drops, in water sweetened with sugar or syrup; but the sugar must be added at the time of taking.

There is a compound of quinine and iron, which is very useful.

The syrup of quinine and iodine is a powerful tonic.

Ipecacuan is expectorant or emetic, according to the dose. Half a grain or a grain, with sugar, every quarter of an hour, till it causes vomiting; or 20 to 30 drops of ipecacuan wine in like manner. After a year old, these doses may be doubled. A syrup of ipecacuan is much used on the continent; and an ounce of the syrup contains 16 grains of the ipecacuan, or an infusion is made by digesting 2 drachms of the root in 4 ounces of boiling water, then adding sugar.

One good formula is this:—

No. 181. *Emetic Mixture.*

Of water . . . . . 1 oz.
Ipecacuan wine . . . . . ½ oz.
Simple syrup . . . . . ½ oz. Mix.

Of this, 1 or 2 teaspoonfuls may be given, until vomiting comes on.

This may be used, when tartar emetic is forbidden by irritability of stomach or bowels; and so far from increasing the action of the bowels, and causing exhausting motions, as tartar emetic is apt to do, it rather tends to restrain *their action*.

When vomiting commences, usually in from fifteen to twenty minutes, or is about to commence, drinks should be taken to promote the operation—barley water, &c.

When ipecacuan is desired to act, as what may be called an alterative, very small doses are given; to a child under two years, a twelfth of a grain may be given twice a day, with 3 or 4 grains of powdered gum arabic—the latter covering its nauseous taste—when the child is purged, or suffers from dysentery, or from fulness of the head, or where the cough requires to be rendered loose. It probably acts by keeping up a slight nausea.

When an overdose has been given—which may prove poisonous—give an infusion of nut galls, which renders it inert.

Jalap.—This is an active, but not a very certain purgative; given when the bowels are torpid and loaded, or when there are worms, or when the brain is attacked, as in water in the head. In this last case, calomel is usually added.

The dose to a child under the year is about 2 grains; and to those who are two or three years old, from 5 to 10 grains. When the liver or stomach is deranged, it is apt to disagree, causing vomiting, griping, &c.

It should be combined with ipecacuan.

No. 182. Of Powdered jalap . . . . 30 grs.
Ipecacuan . . . . . 5 grs.
Calomel . . . . . 5 grs.
White sugar . . . . . 10 grs. Mix.

Two to five grains of this every third hour.

Jalap gingerbread for the nursery.

No. 183. Of Flour . . . . . 1 oz.
Sugar . . . . . 1 oz.
Two eggs
Powder of jalap . . . 60 grs. Mix.

Of this mass, make three biscuits, and divide each into four portions. One of these to be taken twice a day.

Liquor of Potash is useful in cutaneous eruptions, and for acid in the stomach or bowels. Three drops for a child two or three years old is the dose; and it should be well diluted in barley water, nor should it be taken beyond about three weeks at a time. The dose may be increased, as the age of the patient increases, up to 12 or 15 drops.

Linseed, for diseases and irritations of the urinary organs.

The infusion of linseed of the Pharmacopœia is made by pouring a pint of boiling water on 6 drachms of linseed, bruised; 2 drachms of bruised liquorice root. Let the liquid stand for four hours on a hob, and strain through linen or calico.

To render this more pleasant, though not more efficacious, we can add a drachm of lemon-peel, with its rind removed, and a quarter of an ounce of sugar-candy.

A wineglassful now and then—it relieves cough very much.

Magnesia is perhaps one of the most valuable remedies we have for children, who are much infested with acidity. The calcined magnesia should be used; because if it meets with acid in the stomach, there will be no generation or evolving of carbonic acid gas, as may occur when the carbonate of magnesia is given.

It should be combined with rhubarb.

No. 184. Of Powdered rhubarb . . . 20 grs.
Magnesia . . . . . 40 grs.
Powdered cinnamon . . . 10 grs. Mix.

Three or four grains of this every third hour, to a child six months old; from 6 to 10 grains after twelve months.

Manna is a safe, gentle aperient, though it generally requires to be added to something else.

No. 185. Of Tartarized soda . . . . 3 drs.
Manna . . . . . 3 drs.
Dill water or cinnamon water . . . . . 2 oz.
Syrup of rhubarb or simple syrup . . . . . ½ oz.

Of this, 2 or 3 teaspoonfuls; but to an infant under the year, 1 teaspoonful, repeated every three or four hours. For children of four or five years of age, the following lozenges:—

No. 186. *Manna Lozenges.*
Of Cream of tartar . . . . ½ oz.
Manna . . . . . 4 oz.
Water . . . . . 10 oz.

Boil down to a proper consistence, and divide into lozenges, weighing 10 grains each.

Mothers will find it worth their while to make these lozenges.

Manna may be combined with senna, as in the following *ormula:*—

No. 187. Of Infusion of senna . . . . 1 oz.
Mint water . . . . . ½ oz.
Manna . . . . . 2 drs.
Magnesia . . . . . 20 grs.
Tincture of rhubarb . . . 1 dr.
Syrup of roses . . . . . 2 drs. Mix.

One to two teaspoonfuls every third or fourth hour, until it acts.

Manna and syrup of roses, mixed in equal quantities, will be readily taken, and will often answer well.

Nitre, or *Nitrate of Potash*, is useful in many disorders of children—in fevers, to lower the pulse and heat of system—in bleeding from internal parts, from the lungs especially.

The following composition has been recommended as a very good remedy for gastric fevers or bowel disorders.

No. 188. Of Dry carbonate of soda . . . . 8 grs.
Ipecacuanha powdered . . . 1 gr.
Compound powder of ipecacuan 2 grs.
Compound powder of cinnamon 6 grs.
Nitrate of potash . . . . . 10 grs.

Mix, and divide into six powders. One to be given every third hour to a child a year old, in some barley water or thin gruel.

Inflammatory sore throat, where the little patient is unable to gargle—mix two-thirds of nitre with one-third of sugar—and place a little of this upon the back of the child's tongue who is suffering from sore throat—two or three times a day.

Opium is so badly borne by infants and young children, that mothers had better never attempt to give it, under any of its forms. Syrup of poppies, Dalby's carminative, Godfrey's cordial, paregoric elixir, are the ordinary forms under which opium has been given. The tincture of hop must be given instead. It is said that in Manchester, 14,000 children die every year over and above the natural proportion; and it is in the cotton towns that mothers give their children opium, to keep them quietly asleep at home and at nurse, until they return in the evening.

Rhubarb is an useful child's medicine. It combines an astringent and tonic with a purgative property—and it is

therefore well adapted to the irritable bowels of children. In inflammatory complaints, or where there is excitement, we should not give rhubarb—thus it should not be given in the early stage of dysentery, though it is of great benefit in the later stages. When combined with magnesia, it relieves the griping complaints of children.

For a dose to a child six months old, two grains may be given with as much calcined magnesia—to a child of two years old, five grains may be given in dill water, or mint or aniseed water—but a late writer says, the syrup of rhubarb with a little dried soda or magnesia added, will be readily taken by young children.

It is most effective when given in powder—but its taste can be best disguised in the form of infusion, to which some cinnamon powder has been added—and also camphor julep—for camphor increases the action. This infusion is made by macerating (letting stand in a gentle heat) for two hours, half an ounce of powdered rhubarb in nine ounces of boiling water with one scruple of cinnamon—then to strain it through linen or calico.

The dose of the syrup to an infant is from half to a whole teaspoonful.

Gregory's powder consists of two parts of rhubarb, four parts of calcined magnesia, and one part of ginger, well mixed and rubbed together.

Salts or Epsom Salts act mildly and quickly. The child should be made to drink pretty freely soon after taking the salts—not too soon, however, lest from over distension, the stomach reject the medicine and drink together—wait half an hour and then give drink—the more diluted the salts, the more effectively will they act.

Dose—To children of about three and a half or four years old, a drachm of Epsom salts may be given in water, sweetened with syrup of lemon peel—or they may be given in the compound infusion of roses sweetened.

Sarsaparilla.—This is an auxiliary in the treatment of depraved conditions of the system — in eruptions on the skin—and in disorders of the digestion—though many deny that sarsaparilla does much or any good.

Dose.—A teaspoonful of the fluid extract may be given two or three times a day, in some water, to a child of five years of age.

Senna.—This is one of the most common aperients in use; and produces a decided though not a violent impression. It seems to remove mucous accumulations from

the stomach and bowels; and thus may be useful in worm cases. The best combination is with manna, tartrate of potash, and aniseed or dill water. Pimento water hides the taste best, and tincture of orange peel will also disguise the flavour.

Or we may digest a drachm of senna leaves in a sufficient quantity of cold water for a night, and coffee is prepared in the morning with the strained liquor—a purgative is thus obtained devoid of all nauseous taste.

An infusion is made by pouring eight ounces of boiling water over one drachm of senna leaves, and a few prunes digested in it. Of this, a tablespoonful or two, operates well.

Epsom salts are often wisely added to the senna.

Sulphur has an action over the skin and over the large and lower bowel (the rectum). It is a laxative—promotes perspiration—and acts gently. It is given in piles—prolapse or coming down of the lower bowel—in long standing eruptions of the skin—and it is a popular remedy for rheumatism.

A friend of the author puts some sulphur under the soles of his feet, when troubled with the rheumatism—and he speaks with enthusiasm of the good effects.

Dose—is thirty grains to one hundred and twenty to a child six years old—the precipitated sulphur is preferred—and it is to be given in milk combined with half the quantity of cream of tartar.

Sulphate or Super-Sulphate of Potash is useful in disorders of the liver and bile-ducts, and it is a purgative. It is usually given combined with rhubarb—thirty grains of the sulphate with ten of rhubarb, in any aromatic water.

Scammony is at times required, when there is much mucus in the bowels of children, to which they are a good deal exposed. It is apt to gripe and irritate; wherefore it must be finely powdered, and combined with some aromatic. Worms are dislodged by it sooner than by any other drug; but its high price leads to its frequent adulteration.

No. 189. Of Powdered scammony . . 30 grains.
Prepared chalk . . . . 15 ,,
Aromatic powder . . . 5 ,,

Mix well.

Two grains to five, every three or four hours.

Or No. 109. Rhubarb . . . . } equal parts.
Scammony . . . . } equal parts.
Sulphate of potash . } equal parts.
Aromatic powder should be added.

The carbonates of potash or soda are often useful, combined with other remedies; three or four grains for a dose.

Aloes, for the thread-worm, or to relieve the head, when threatened, may be given. Liquorice root disguises the taste.

No. 191. Of Compound decoction of aloes . . . . . } 1½ oz.
Liquorice root . . . 2 drachms.
Wine of aloes. . . . 2 „ Mix.

One or two teaspoonfuls, twice or thrice daily.

Suppository of Aloes,

to be introduced into the lower bowel, when irritated by thread-worms:—

No. 192. Of Powdered aloes . . . . ½ oz.
Common table salt . . . 3 drachms.
Flour . . . . . 2 „
Honey, enough to make a mass.

An useful Purgative Lavement,

to help in costiveness, and to prevent the necessity of giving many aperients by the mouth, is the following formula:—

No. 193. Of Barley water . . . . . 5 oz.
Common table salt . . . 3 drachms.
Olive oil . . . . . ½ oz. Mix.

To this, if much wind in the bowels be present, add one or two teaspoonfuls of spirits of turpentine.

CASTOR OIL BISCUITS.

Take a quarter of a pound of flour, two ounces of moist sugar, a small quantity of mixed spice, finely powdered—and with an ounce and a half of castor oil, make the whole into the consistency of pie-crust; to which may be added a few currants—roll out the paste and divide into ten cakes, and bake over a quick oven.—Each cake will contain more than a teaspoonful of oil.—By adding treacle and ground ginger, the same may be made into gingerbread nuts. Several families find these cakes useful.

Diseases of Children.

Teething.

The evolution of the first set of teeth is a perfectly natural process, but it is occasionally rendered both painful and difficult, by errors in the management of the infant; and then it becomes the most critical period of childhood; and thus it is we hear that, out of 1000 children born at the same time, 257, or more than one fourth, will be dead at the close of the first year; while of the remaining 743, but 118, or less than one-sixth, will be dead at the close of the second year.

Into the causes of this mortality we need not here enter —but one very efficient, is the process of dentition, which, in some scrofulous and irritable habits, excites fatal convulsions in a certain proportion of cases.

The order of cutting the teeth is this:—the two middle teeth, the incisors of the lower jaw, appear first, about the seventh month; the corresponding incisors in the upper jaw follow, in about three or four weeks, and then the remaining four incisors in the upper and lower jaws. The two canine teeth then appear, first in the lower jaw, then in the upper. Soon after these, the grinders appear in the same order—one on each side, first on the lower jaw, then on the upper. At the end of from four to six years, four more grinders appear in each jaw; these are permanent, and grow with the increase of the body. At the age of twenty-one, or later, four more teeth appear, called the wisdom teeth: thus, in all, making thirty-two teeth in the adult.

The numbers in the following table show the succession of the teeth—the numbers do not refer to months or years:—

Molar Teeth.		Canine.	Incisors.				Canine.	Molars.		
9	5	7	3	2	2	3	7	5	9	Upper Jaw.
10	6	8	4	1	1	4	8	6	10	Lower Jaw.

The temporary or deciduous teeth appear, on an average, at the following periods—after birth :—

		Months.		Months.
The central incisors at about . . .				7
Lateral incisors . . .	from	8	to	10
Anterior molars	„	12	„	13
Canines	„	14	„	20
Posterior molars . . .	„	18	„	36

PERMANENT TEETH.

		Years.		Years.
The First molar	from	6½	to	7
Central incisors. . . .	„	7	„	8
Lateral incisors. . . .	„	8	„	9
First bicuspid	„	9	„	10
Second ditto.	„	10	„	11
Canines	„	12	„	12½
Second molars	„	12½	„	14
Third molars	„	16	„	30

Many children do not suffer at all, during the whole process of teething ; others are afflicted with convulsions, heat, and excitement; others with looseness of the bowels ; and these last do best. In some, slavering exists for some time, more or less ; in others, there are no precursory symptoms at all.

The convulsions are often fatal ; but as they proceed from, or depend upon, the delicate vascular and highly sensitive membrane which surrounds the tooth being put upon the stretch, much may be done by a watchful mother, to prevent convulsions and every danger.

Fever also may attend teething ; and heated hands, flushed face, offensive urine, and flushing of the cheeks, attest the sympathetic irritation, which is set up. The gums may become red, swollen, and hot ; diarrhœa ; swelled glands ; sore eyes ; a croupy cough, may in different cases prevail.

Pure air—tepid bathing—care as to diet—and free bowels, are to be procured if possible. The tepid bath, at 95°, is very soothing.

The child may mumble a hard crust ; though, as a little bit of hard crust sometimes gets detached, and slips down *the throat, causing* cough, it would be better to let the

child mumble the coral, ivory, and other contrivances, on sale for that purpose.

The mother or nurse should gently rub the gums, where they are swelling.

If the bowels are too loose, four grains of the compound chalk powder, just to restrain within bounds—not to arrest; if they are confined, four or five grains of Gregory's powder, with three or four drops of sal volatile.

Should this treatment fail, then lance the gums well down to the tooth, again and again, if necessary; and no fear need be entertained of the scar from the lancet or sharp knife, or sharp edge of any kind, becoming hard and resisting the forthcoming tooth.

All newly-formed parts, such as scars or cicatrices, are sooner absorbed than the original structure.

This lancing, immediately a convulsive fit is threatened, has been successful many times—pretty nearly uniformly so.

The fever and irritation, wherever they manifest themselves, must be treated on the principles laid down in preceding pages—only adapting the number of leeches and amount of depletion or lowering, to the degree of fulness in the vessels which may exist.

If the gums ulcerate, a little alum or borax in honey or syrup, smeared over the ulcer, with an aperient or two, and a cooling diet, will soon cure.

If the jaws are not expanded enough for the permanent teeth, or if the teeth are too large, a well-educated dentist should be consulted—also, if any make their appearance in a wrong place.

Scrofula.

This peculiarity of constitution demands the utmost care and attention—for while it spares neither age, sex, nor condition, its attacks and progress are often so insidious, that disorder and disease may have fixed their roots in the constitution, before alarm is taken.

For instance, scrofulous inflammation is a very slow process in many instances; and if matter is formed, it is formed slowly; and the pus formed is not like the ordinary matter in other inflammations; it is not one fluid; *homogeneous* is the technical term. It consists of a thin,

serous, whey-like fluid, and partly of fragments resembling curd.

The ulcers left are indolent—will not readily yield to remedies, nor will they readily heal up.

This temperament is well known by certain marks—viz. an extreme whiteness and fineness of the skin, fair hair and blue eyes, a soft and rounded form of the body, the cellular tissue of which fills up all lines; and muscular or other projections—there is a look of perfect health; yet, though the skin and bodily substance appear firm to the eye, they are soft and flabby to the touch—the countenance, generally full and rounded, conveys an expression of softness—the cheeks often beautifully coloured—the teeth white in a remarkable degree—the lips are apt to be swollen, especially the upper—the nostrils swollen—and the skin is easily irritated, by what would not cause irritation in a sound person. In some children with this temperament, even mild scented soaps have sufficed to cause an eruption of pimples.

The intellect in early life is active, vivacious, and cheerful, and the moral and mental faculties are of a pleasant cast; but there is a want of firmness and solidity. Such children are clever, and exceedingly quick in learning anything they try to conquer: their parents are delighted with them, and wish to incite them to constant intellectual exertion; whereby disease is often roused into action, never again to quit the patient.

Scrofula is also common in those of a very different temperament—the melancholic or bilious. Then the complexion will be dark—the countenance swollen and pasty—the habit indolent—and the functions of the body are performed sluggishly, and perhaps imperfectly—the nervous energy is feeble—the feelings obtuse—and the moral and intellectual powers occupy a low rank.

The late Dr. Thompson, of Edinburgh, tells us, that the worst forms of scrofula occur in persons of this temperament.

Scrofula consists essentially, in the formation and presence in the various tissues of tuberculous matter. It may affect, though with various degrees of frequency, almost every tissue in the body—the susceptibility varying with the age of the individual.

Children most frequently suffer from scrofula in the *glands of the neck*, in the mucous membranes, and in the

mesentery, (a membrane by which the bowels are fastened to the spine.)

Scrofula as it affects the Glands of the Neck.

These are seldom so affected in children under two years of age, and the period of life most exposed is between the fifth year and puberty.

An eruption on the scalp, or behind the ears, may be complained of; then the glands swell, and feel firm and fleshy to the touch. By degrees the glands become larger and harder, though slowly, parts of them being as firm as cartilage; then a process of softening takes place in particular spots, which, if then examined, would be found to contain a soft, yellowish-white, and cheesy tuberculous matter. Some curdy, yellowish pus or matter is formed, which slowly makes its way to the surface, sometimes through several apertures, when an open scrofulous abscess results.

These glands may attain a large size, continuing hard; and might even be absorbed without matter forming, if the health happened to improve.

An open scrofulous abscess discharges for a long period, a thin fluid, containing curdy flakes; and now and then small masses of tuberculous matter.

The sore itself is characterized by a thin, overhanging livid margin, with pale and flabby or indistinct granulations; and it sometimes heals in one part, to break out in another.

Scrofula often attacks the ears of children—the outward passage. The membrane is inflamed, progressing slowly; then pustules are formed, with a discharge of unhealthy, badly-smelling matter. Now, this inflammation may extend into the ear, causing ulceration of the membrane of the drum of the ear, when deafness would result; and it may extend further in towards the brain, causing disease of the brain, and death.

Scrofulous discharges from the vagina, of a purulent or a mucopurulent character, are not unfrequently met with; and will only yield to those measures, which tend to produce improvement of the general health.

Scrofula does not appear to be the direct product of any peculiar virus; as direct attempts to propagate it by inoculation, have been unsuccessfully made by several.

The marks by which we recognise the scrofulous tendency, are all such as denote the preponderance of the white tissues and fluids of the body over the red; that is, of the lymphatic over the arterial and venous systems.

Now, all we know of physiology teaches us, "that the strength, vitality, and capability of resisting disease, possessed by animals (at least, warm-blooded animals), is in a direct ratio with the preponderance of the red tissues and fluids in their bodies over the white; that, in fact, the white tissues have naturally a lower degree of those qualities than the red; and the more they abound in the system, in relation to the others, the less power will there be for resisting morbid conditions."

External causes seem to have a power of exciting scrofula in persons, who do not show any of the marks of the scrofulous tendency—and they act by favouring the production of the white over the red tissues—for instance, confinement in damp, unhealthy situations, with diminished supply of light and air. Thus inhabitants of cellars, and of houses without good air, and with very little light—will become scrofulous.

Parrots, monkeys, rabbits, &c., all die of consumption when taken and put into confinement, after constantly living in the open air, and under a brilliant sun.

Peculiarities of structure have a tendency to be communicated from parent to offspring—and we should confidently expect that the deficiency in red tissues, so conspicuous in the scrofulous temperament, would be bequeathed by a strumous father or mother to their child—and we find that it frequently so happens. Fortuitous circumstances may originate scrofula in those not predisposed—and a generation may be passed over without any attack, in consequence of better air, living and exercise having engendered a healthy predominance of the red tissue over the white.

Scrofula may be attended with a deposit of tuberculous matter, or again there may exist scrofula in various parts without any deposit of tuberculous matter. The seat of this last is the mucous system; and not the cellular, as was long believed. The mucous systems require for the discharge of their functions, a large share of red blood, and a high degree of vitality—they will therefore suffer soonest, and most severely, from any minus state of the constitution in these particulars.

The preventive treatment of scrofula is very important, and this is to be done, by endeavouring to restore the deficiency in the red fluids and tissues—by paying attention to the various items concerned in the management and bringing up of children. To the Sections on FOOD, CLOTHING, &c., the reader may turn for directions how to proceed.

There are three points which require to be specially attended to, in the prevention of scrofula.

1st. Where a taint of the disease evidently exists in the mother, that the state of her health during the period of utero-gestation should be regarded with the most jealous care.

2ndly. That on the birth of the child, if either parent should have strumous predisposition, preventive means must be resorted to, during the early years of life.

3rdly. In cases where there is no hereditary predisposition, but locality or other external agents appear the source of the disease; these must be obviated.

Females are not sufficiently aware of the influence exercised by their own state of health during pregnancy, on the offspring they are carrying. Every sensible woman may safely trust to her common sense for the avoidance of errors in diet, clothing, &c.—only she must be watchful. Some cautions apposite to this purpose, will be found in preceding pages.

When the child is born, and the father only be of a strumous habit—the mother may be permitted to suckle her child: but if the mother be scrofulous, then a wet nurse should be obtained—and a right or a wrong choice of a wet nurse, may exercise a baneful influence on the whole future life of the child.

About the age of ten or twelve months, the child should be weaned — because protracted lactation tends very strongly to produce a feeble habit of body. The milk after twelve months becomes poor and innutritious, giving rise often to flatulence and indigestion.

The food should now consist of cow's milk, with light nutritious vegetable food and a little broth. Fatty matter in milk is recommended by Dr. Paris. The suet is to be inclosed in a muslin bag, and so simmered with milk—and this affords much nutriment in a little space. This has been compared to goat's milk, but it is more astringent—it has been strongly recommended in atrophy, or scrofulous

decay, and was very useful when every other article of diet caused irritation in the bowels. As children have not the temperature so high as that of adult age, and as they do not enjoy the power of generating heat to the same extent—the clothing, therefore, must be warm, and effectually protect against the vicissitudes of the weather. Exercise in the open air—living in well aired, spacious apartments—tepid baths or cool baths, may also be put requisition.

As the child grows up, and particularly if the intellect is precocious, parents must be warned against allowing such children, to work too much with the head. Disease is soon set up of an insidious character; and the child is attacked with tubercular inflammation of the brain, which too often bids defiance to all remedies. The author could relate many instances of the fatal results, from neglecting this point of treatment.

Childhood is the period of growth, and the full exertion of the intellect should be kept in the background; for any undue exertion of the mind can only be carried on, at the expense of the bodily powers; and it has been justly observed, that "eventually the hopes derived from precocious intellect are disappointed; and that state of intellect which should only have been the accompaniment of after and more mature years, fades into weakness and irresolution as manhood advances—that very period of life when the independence of intellect is required. A child with a scrofulous tendency should learn its lessons in the fields, and not be bound down to books in the crowded atmosphere of a schoolroom." Boys are better treated than girls, for they have their hours of exercise and free enjoyment; but female educationis fraught with conditions, the most obnoxious to the strumous, in the shape of ill ventilated and confined rooms—of the use of stays, bands, and strings—and in a system of drilling and exhausting attention, either to mental or bodily qualifications. One would imagine that all parents would not need any words of warning; yet the physician is continually meeting with lamentable instances arising, from neglect of these sanitary rules.

In those children who have imperfect appetites and digestion, and whose bodily powers are weak, the author has often prevented mischief, by recommending the use of some of the chalybeate waters, or of a syrup composed

of the citrate of iron—two grains to the ounce of syrup, and a tea-spoonful given, twice a day, in some water; or if the syrup disagree, a little tincture of orange-peel, about two drachms to three quarters of an ounce of water, and two grains of the citrate of iron, in the same doses, have done great good—a gentle aperient being occasionally given. The tone of the whole body has thus been strengthened, and all deposits of a morbid nature prevented.

One instance of the prejudicial effects of cold at school, the author has recorded in his book on *Consumption, Scrofula, and the Prevention of Disease*. A young lady, aged fifteen, had just begun her periods, and was rapidly developing into womanhood, with every appearance of very good health. She was sent to a finishing school; and in about three months the author was sent for, and found her in a state of rapid consumption, which bid defiance to all treatment; so general was the deposition of tuberculous matter throughout the lungs. The only cause he could discover for this fatal change, was found in the fact, that every morning, during the winter season, the sufferer had to practise at the pianoforte, from seven to eight o'clock, in a large, cold room, without fire. The poor girl felt, she said, almost frozen every morning, *and never recovered any warmth during the whole day*. Thus the blood driven from the surface of the body, caused congestion and slow circulation in the lungs; and a general deposit or infiltration of tuberculous matter took place.

Another striking exemplification of the danger arising from neglect of proper warm clothing, and the consequent imperfect performance of the very important cutaneous functions, was related to the author by a medical friend, who, many years ago, accepted an appointment as médecin de famille to an English lady of rank, who was married to a Russian nobleman. After residing some time at St. Petersburgh, he found the lady had some fixed opinions about the physical education of children; and that she was firmly persuaded, that bringing them up on the hardening system, as it used to be called, was the only way to make them grow into vigour. The author's friend, who was a clever and well educated physician, explained to her, that the system she so much affected, required modifications, according to the peculiarities of different constitutions. Some will bear, and bear it well too, an amount of cold,

that would soon kill others. Now this lady had a daughter about thirteen or fourteen years of age, in pretty good health; but with the fair skin, and other marks of scrofula; whom the mother would always send out into the air, with a very insufficient amount of protective clothing, notwithstanding the doctor's earnest and then somewhat angry remonstrances; who, at last, finding he was not allowed to direct all matters pertaining to health, resigned his appointment. In one short year, the poor girl was hardened into her grave.

The danger from scrofula generally passes away after the age of puberty, or about twenty-one, unless in the case of consumption.

Treatment.—If we remember the causes, both predisposing and exciting, of this malady, we shall have no difficulty in making out what we are to aim at, in our attempts at cure.

To improve the general health is the first point, and this must be done in every possible way; and to promote the dispersion of local tumours, is the second.

A nutritious diet must be secured; but great attention must be paid as to the quantity and quality of food, admitted into the stomach of those of scrofulous habit, who are ready to suffer disease more quickly than others. Whenever strumous children are suffering from bowel irritation, as in atrophy, indigestion, &c., animal food had better be withdrawn for a while, and a farinaceous one substituted; or else a diet adopted, which is modified between the two.

In the article INDIGESTION, we have explained that the food is digested in proportion to the quantity of gastric juice secreted; and that the quantity of this secretion depends, on the want in the system for food and support. Give more than that proportion of food demanded by nature, and irritation arises; to end in disease perhaps.

Warm clothing is quite indispensable; and during the cold months, there should always be sufficient blankets to the bed, to prevent any feeling of coldness. It must, however, be borne in mind, that we must not make the child wear so many clothes, as will keep the skin in a strongly perspiring state, for that would be to exhaust the strength. The skin should be maintained in just such a perspirable state, as will keep it soft and pliant to the touch. Flannel *or woven cotton* may be worn.

Exercise in a dry, bracing air, must be regularly taken. Bathing in seawater, and at the seaside, is very useful. Some medical men object to the seaside in cases of consumption; but it has been explained why and in what cases, the sea bathing and sea air may disagree.

The writer's practice is, to order all who consult him, to stand or sit in a tub of water, as hot as can be borne comfortably; then, with a flannel, and the best soft soap—scented, if it be preferred—to have the whole body first sluiced with the water, then soaped down from nape of neck to sole of the foot—then wiped dry—and, finally, a bucketful of tepid water, or water nearly cold, may be thrown over and down the body and limbs, which are to be wiped dry, before getting into bed. This may be repeated two or three times a week; and such is the comfort derived from the practice—so speedily and sensibly beneficial are the effects—that no recommendations are needed to continue the practice.

Every pore of the skin is opened, and all adherent scales or dirt removed; and there is little doubt of such ablutions' high protecting power against disease.

For some years, the writer used the hot water and soap; but latterly, he finds the final bucket of cool or cold water a very powerful tonic; and so tranquillizing is the influence, that the following night is passed in one untroubled sleep.

The iodine baths have been strongly recommended; and they certainly do determine strongly to the skin, hands, and feet, &c.

Lugol's formula for iodine baths to children between four and seven years of age, is this:—

No. 194. Of Water . . . . . 36 quarts.
Iodine . . . . . 30 to 36 troy grs.
Hydriodate of potash 60 to 72 troy grs.

Strumous children often complain bitterly of cold feet; and many a school-girl has been prevented from getting any sleep, by the coldness of her feet; or, it may be, by chilblains.

Here the iodine pediluvium is of service. A solution of iodine should be kept ready to add to the water.

No. 195. *Iodine Foot-bath Solution.*

Of Purified iodine	60	grs.
Hydriodate of potash . .	120	grs.
Alcohol.	½	oz.
Distilled water	3½	oz. Mix.

A tablespoonful of this solution to enough hot water, forms a foot-bath—to be used every night or alternate night.

In some cases, the author found there were complaints of the bath leaving behind it a troublesome itching; to remove which, a couple of grains of cyanuret of potash may be added to each bath.

The shower-bath, warm or tepid at first, may be found beneficial.

Aperients occasionally must not be forgotten—grey powder, with powdered rhubarb, with one or two teaspoonfuls of castor oil, next morning, will suffice.

If indigestion accompany, with acid, heartburn, &c., the carbonates of magnesia, potash, or of soda may be given, two or three times a day, in some bitter infusion; so long as the state of indigestion continues.

Tonics are very beneficial, and those derived from iron are the most desirable. The ammonio-citrate, or the citrate, as it is commonly called, is the best for children—both because it is less disagreeable to take, than any other of the chalybeates; and because alkaline carbonates may be combined with it, if necessary.

It may be taken in a state of effervescence, by dissolving ten grains of the sulphate of iron, in some water—a wine-glassful; then dissolving in some water, in another glass, ten grains of the sesquicarbonate of soda. Syrup of orange-peel, &c., may be added, to taste. On mixing the two, we shall obtain a solution of about four grains of carbonate of iron, two and a half grains of sulphate of soda, and five grains of sesquicarbonate of soda.

The chalybeate waters are, perhaps, the best vehicles for this kind of tonic—for the metal is so finely divided, and the quantity taken is so small, that no irritation can possibly, or ever does, ensue; provided the proper case has been selected.

A gaseous chalybeate water can be thus made:—

No. 196. Of Bicarbonate of soda . 98 parts or grs.
Tartaric acid . . . . 116 grains.
Sulphate of iron . . 3 ,,
White sugar . . . . 280 parts or grs.

Mix well by rubbing—and keep the resulting powder quite dry, in a well-stoppered bottle. This quantity will make a quart.

In some cases the iron and quinine ought to be combined—and there are preparations sold of the two rubbed in together.

In enlarged or hardened glands, the iron should be combined with iodine, and the syrup of iodide of iron should be perseveringly given; beginning always with very small doses, until the stomach can well bear larger ones.

The cod-liver oil is one of the most valuable medicines in scrofula we can possibly give; and though it acts rather as an agent of nutrition than as a remedy, still it certainly does a vast amount of good. The iodine in it contributes to the beneficial effect.

The iodide of potash, in bitter infusion or with sarsaparilla, has been much lauded, but the writer does not often give it; and neither this iodide nor iodine should ever be given under certain circumstances—namely, when there is a tendency to too profuse periods—or when there is an erysipelatous state of the skin—and inflammations of the lungs, or irritation of the stomach or bowels, or diarrhœa, also forbid its use.

When it is doing good, the almost immediate effects are —an improved appetite, a more healthy colour of the skin; which are often followed by decrease of swelling, and absorption of the disease of the glands. And we shall know when to leave off the iodine—when a feverish state suddenly appears, a headache, loss of appetite, &c.; for if we continue the iodine, a quick pulse, palpitations. dry and frequent cough, night-watchings, rapid thinning, loss of strength, trembling, &c., will give undoubted evidence of the mischief which the iodine is effecting in the system.

Enlarged Glands.

Besides the above general measures of treatment, the *local* applications are of importance.

The best application is—to paint once or twice a day, by

means of a camel-hair brush, the enlarged glands, with a solution of pure iodine in alcohol—ten to thirty grains to an ounce of alcohol.

If the glands inflame more under this application, discontinue; and apply cold or warm poultices, till the redness disappears; then paint again.

Sometimes an ointment of iodide of lead agrees better—sixty grains to an ounce of lard. The ointment of zinc is useful at times.

If passages, called sinuses, form, inject a weak solution of iodine—five grains to an ounce of alcohol, and apply pressure above the passage. These sinuses are often intractable.

Scrofulous Ear.

Cleanliness is what is here chiefly wanted; and we may relieve the irritation in the auditory passage, by exciting counter-irritation behind the ear. This is done by placing a piece of woollen thread, smeared with blistering ointment, in the angle between the ear and skin of the head, or by an eruption caused by the tartar emetic ointment.

Rickets—Rachitis,

Is, by the Germans, called the English disease—it seems to have been so prevalent. It is now much more rarely seen.

It commonly appears about the first dentition—or it then begins to show its first symptoms, when the child has to try and support the weight of its body upon its limbs.

Symptoms.—The general health first shows signs of derangement; the child becomes languid, feverish; the skin dry and rough; the flesh soft and flabby; countenance pale; appetite uncertain and depraved sometimes; the digestion is impaired; the bowels irregular—the stools and urine unhealthy looking; the abdomen or belly jutting forward—though this last symptom may depend on the bones of the spine, in the loins, jutting forwards too much—in which case, the hollow of the back will be unnaturally concave. With all these there is more or less of fever, *ot unlike the* remittent fever.

After a time the head begins to enlarge, and the openings in the head of the infant do not close at the proper time.

The ends of the long bones at the wrists and ankles swell into knobs, which appear all the larger from the shrunken state of the limbs. The bones become soft and incapable of supporting the weight they should do; the legs bend, the chest narrows, and the breast-bone projects forwards.

The hip-bones participate in the deformity; and the teeth come forward very slowly, and suffer speedy decay.

The impression is general that rickety children are of precocious intellect—but this there is reason to doubt.

This disease depends upon a deficiency in the earthy matter of the bones. Dr. John Davy found that 100 parts of the tibia (large bone of the leg) of a healthy subject of fifteen, yielded 46·4 of animal matter, and 53·6 of earthy; while the same quantity of the dry tibia of a rickety child contained 74 parts of animal, and 26 of earthy substance.

Cretinism is supposed to be as high a degree of rickets, as can be seen. Cretins are observed in Savoy, Switzerland, Chinese Tartary; and cagots in the South of France and the Alps.

Rickety persons are seldom long lived—and many suppose that phthisis is brought on; but the chest symptoms, of great expectoration and dyspnœa, are occasioned by the deformity of the chest, which at length impedes the passage of the blood, from the right to the left side of the heart.

The causes are the same as those which favour the induction of scrofula. Anything which prevents healthy nutrition may bring on rickets. So, if the causes can be removed, and the disease is not too far advanced, we may hope to cure or to arrest the progress of rickets.

The greatest dangers arise from the great deformity of the chest; and from any fevers or exhausting diseases attacking the rickety child, which is all the less able to bear the strain of the added disease.

Treatment.—This is comprised in that of scrofula—and all we have to add here, is as to managing the child's positions, for any undue pressure upon any part, and especially the chest, must be avoided—the bones are so flexible

that pressure carelessly continued in the same situation, will be very likely to alter their shape.

Dupuytren used to place the child with a deformed chest from rickets, with its back against a flat, resisting body; and then pressing with the expanded palm of the hand upon the chest-bone, so as to flatten the chest from before backwards, and increase the convexity of the ribs. By frequent daily repetition of this pressure, more may be done to correct deformity than would be imagined, and the nurse could do it—only, force sufficient to cause pain should never be used.

All instruments for straightening the spine, &c. are here useless, and, indeed, they are prejudicial, by impeding or preventing the muscles from acting. Instruments, too, must bear upon some points for support. Now, in rickets, the hips will give way, all the sooner for any extra pressure being put upon them.

Some padded splints may here and there be applied, but even these will require great caution and judgment.

In the case of Madame Supiot, it is related, that she could, and often did, place her legs at her sides, and on parallel lines with her body.

Atrophy.—Mesenteric Decline.

This may arise from disease of the mucous membrane of the bowels—either irritation or inflammation—or it may arise independently in a child of highly scrofulous habit. "The mesenteric glands, which are scarcely perceptible at birth, undergo gradual development, until about the period of dentition, when in common with other parts of the glandular system, they begin actively to enlarge—and accordingly we find, that disease of the mesenteric gland makes its appearance about this period. Infants are seldom affected before the eighth month; but from that time to the eighth or tenth year, the disease is liable to occur; most frequently from the third to the sixth year, or about the seventh. The glands of the mesentery are, according to Meckel and Portal, more subject than any others to tubercular disease."

These glands may first begin to swell from irritation set up in the bowel—and they may remain in an indolent

state for some time, being in size not larger than a pea—but they may increase in quantity, until they arrive at considerable size, resembling a heap of peeled chesnuts. They become soft and contain a soft, white, curd-like matter—and this matter is sometimes found in considerable quantity, not only in the gland, but around it, or within the layers of the membrane.

Symptoms.—Progressive loss of flesh unto extreme emaciation, may be said to be the chief feature of this disease. This wasting is not invariably present—for tubercles have been found in the mesentery, where there had been no wasting—still wasting is rarely absent—and it has been attributed to a failure of nutrition, caused by actual obstruction to the passage of the chyle through the glands—this is, however, an error; for the glands have not been found impervious to injections after death, nor would the patient last so long as he does, if obstruction were the cause acting. No—the sufferer is generally cut off, rather from some acute attack, or from hectic fever—for, so long as the glands remain indolent, the emaciation does not become remarkable; but when they soften, and begin to suppurate, hectic fever sets in, and emaciation rapidly ensues. The digestive organs are also in a state of irritation, and digestion is much interfered with.

The wasting in this disease is regular and slow—that from bowel-complaints is rapid and variable.

The symptoms of disorder of the mucous membrane of the bowels so much resemble, and are mixed up with those of atrophy, that a distinction cannot well be set up. Monsieur Guersent says; the only unequivocal evidence of this atrophy is, the feeling the glandular masses in the abdomen. Still there is a combination of symptoms which will indicate, with some probability, what is going on in the abdomen; and whether the morbid state is one of irritation of the mucous membrane; or one proceeding from this tuberculous or scrofulous state of the mesenteric glands; it matters not as to treatment—for what will suit the one, will also suit the other.

Dr. Evanson describes these symptoms very correctly, and we will follow his division of them, into three periods or stages. First, the incipient stage, or that in which the enlargement of the glands is present, but has not made itself manifest by disturbing the general health, or deranging the digestive organs in any marked manner.

Second; a stage of farther advancement, when the glands of the mesentery have become perceptibly enlarged, and the derangement of the digestive organs decidedly marked. This is the period at which the stools are observed to assume the white colour, which they so frequently exhibit in this disease; and wherein glands in other parts, particularly the neck, are found enlarged. In the third stage, the mesenteric glands become irritated and suppurate—inflammatory affections of the mucous membrane, lining the bowels are excited—hectic fever sets in; and colliquative sweats or diarrhœa, sooner or later, carry off the patient.

The first stage begins insidiously—the digestion is disturbed—signs of irritation of the bowels are observed—recovery from which is slow—they recur on slight excitement—the belly remains perhaps full and hard—and the flesh wastes away, notwithstanding an appetite probably voracious or fanciful. We should now take alarm, and suspect that disease is set up in the mesenteric glands.

If we can feel the enlarged glands, we are *made* certain.

The second stage is better marked. The patient should be examined while fasting, and we may detect the enlarged and hardened glands about the middle of the abdomen; and pressure on them often gives some pain. If the masses felt, proceeded from hardened masses of feculent matter, no pain is caused by pressure; and, moreover, these feculent masses are felt more to the side, in the course of the large bowels; nor does the taking of food, or an evacuation, excite pain, or the latter relieve the uneasiness, as either does when a feculent collection alone is present. The uneasiness or pain in mesenteric disease is increased by running, leaping, hiccup; also, by the upright position or bending of the back; the pain occurs, too, about the same hour of the day—lasts long; or, if absent for a few days, recurs with severity. The appetite is variable, sometimes voracious, and acid or indigestible food is fancied—the emaciation proceeds, although much food be consumed—the belly becomes swollen and hard. We can distinguish, that these symptoms do not proceed from any irritation in the stomach, by finding that stimulating articles of food do not aggravate them.

And now, white, chalky-looking stools are observed, which have been assigned as the characteristic signs of the second *stage*. These white stools are the exponents of

irritation in the mucous membrane of the bowels; and do not depend on the presence of chyle, which has been prevented passing through the lacteal vessels, nor on calcareous matter passing from the bowels, though they look, almost like pieces of mortar.

Worms are not unfrequently present; and when voided, they are looked upon, as causes of the disorder; but they are only accidental complications.

In this disease, the accompanying fever may present itself under one of two aspects—under that of remittent fever, and that of hectic. If the irritation in the mucous membrane predominates largely over the tubercular deposit and the tubercular tendency, the fever will be of the remittent character or type, and abdominal inflammation may terminate life; if the reverse, then hectic fever is the accompaniment, and the sufferer dies from exhaustion.

In the third and last stage, the diseased glands have formed matter, which matter can often be detected in the motions on accurate examination. The peritonæum (membrane lining the bowels) becomes inflamed, and fluid is poured out within the belly; or inflammation and ulceration in the bowels themselves take place. Constant diarrhœa attends, and helps to rapidly exhaust the patient; together with the cough which so often declares, that consumption is raging at the same time in the chest.

Should any enlargement of the cervical or other superficial glands prevail, we may, by observing their state, give a good guess as to the state of the glands within the abdomen; if those under the skin in the neck or groins are softening, it is likely the mesenteric are undergoing, or are about to undergo, a similar change.

Treatment.—In this alarming disease, we must try hard to arrest the mischief while in its first stage; if it reaches the second, our probability of witnessing a recovery grows less and less, until, in the third stage, no hope at all ought to be given or entertained.

The treatment of the early stage, is that adapted to remove irritation and inflammation. Local depletion—a very carefully regulated diet—fomentations and warm baths—stimulating embrocations or liniments. If the bowels are confined, which they may be at first, then, a little rhubarb with sulphate of potash should be given; but in the more frequent case of diarrhœa, we may give grey powder (mercury with chalk), one grain, with one,

two, three, or four grains of compound chalk powder with opium, two or three times a day; and the diet should consist of farinaceous food chiefly, so long as the local irritation seems to continue; but as the signs of local irritation and of fever give way, the diet must be more nutritious, and animal food allowed.

If the looseness is excessive, the chalk mixture of the Pharmacopœia should be given, with or without infusion of catechu, equal parts; but since the diarrhœa depends, rather on irritation of the mucous membrane than on any other cause, we shall stop the one by removing or alleviating the other.

Stimulating embrocations and liniments are of great service usually. Spirits of turpentine made warm, by putting some, into a cup placed in boiling water, is a powerful reddener of the skin; so are linen-compresses wet with the turpentine.—They are to be left on the abdomen until a sense of tingling arises.

Another remedy is the croton oil embrocation—thirty drops of the oil to an ounce of soap liniment—two teaspoonfuls rubbed gently gently night and morning; until redness and angry-looking pimples burst forth.

Or this:—Liquor of ammonia, two drachms; opodeldoc, one ounce—mix.

Or the tartar-emetic ointment, consisting of tartar emetic sixty grains to one ounce of lard, or a liniment of soap liniment and tartar emetic in similar proportions.

For internal medicines, the alkaline carbonates in some bitter infusion, with hydrocyanic acid.

Either of the following to a child eight to twelve years old. If there is no diarrhœa, the first may be given.

No. 197. Of Infusion of calumba . . 6 oz.
Bicarbonate of potash . 60 grs. or 1 dr.
Medicinal hydrocyanic acid . . . . . 6 drops
Mix. One-sixth part thrice daily.

If there is diarrhœa—

No. 198. Of Compound chalk powder 2½ drachms.
Tincture of opium . . 20 drops.
Infusion of calumba . 8 oz. Mix.
Two tablespoonfuls, two or three times a day.

But of all remedies, during the first stage, and, indeed,

during the three, the cod-liver oil is most to be preferred; the only objection is, that the stomach is often too irritable to bear it, and it is sometimes rejected by vomiting, or else there is a taste of the oil left in the mouth for hours afterwards, which children cannot easily bear. We may sometimes obviate this by giving, just after the oil, or before it, about the third or fourth of a drop of the medicinal hydrocyanic acid, in some distilled water.

The dose of the oil should be, a teaspoonful to a child of from eight to twelve years of age; and it must be cautiously increased.

If, however, the oil cannot be borne in this way, we should rub it into the abdomen, two drachms to half an ounce, mixed with soap liniment, night and morning; taking care to prevent the smell from affecting the child, as much as possible. This oil serves both as nutriment, and as a check upon the emaciation; while it possesses a tonic property, and exercises some influence as an absorbent on the hardened glands.

The treatment, then, is comprised in warm baths and very unirritating diet, while fever, local pain, swelling and tenderness exist. When this state has been subdued, then tonics and a more animalized diet; while in all the forms, counter-irritation must be steadily maintained.

Disease of the Brain, and Convulsions in Children.

Inflammation of the brain in children of a scrofulous habit often depends on a deposit of scrofulous or tubercular matter in certain parts of it; and, together with convulsions, cuts short the lives of many infants and children. It may also depend on simple inflammation of the brain—that is to say, of inflammation unconnected with scrofulous action.

In the first stage the symptoms are premonitory; there is general febrile disturbance—the child's manners are altered—its spirits variable—there is an appearance of heaviness—giddiness, dizziness, headache—appetite bad or variable—thirst considerable. The child seems to halt in her gait.

The child vomits—sometimes after food only; at others, when the stomach is empty, when some greenish phlegm

is brought up. The attacks of vomiting occur two or three times a day. The child's head seems to grow heavier —headache, and often severe. The bowels are generally constipated from the first, and the scanty motions are pale or mud-coloured, very offensive, and seem to be deficient in bile. The abdomen is seldom full, though there may be pain or tenderness. The tongue usually is not dry, rather red at its tip and edges, with a white fur on the centre, a yellowish coating at the root.

The skin is harsh and dry—the nostrils are dry—pulse quick, but seldom exceeding 120, in children of four years old and upwards, nor is it full, but often unequal. Drowsiness, yet restless; grinds its teeth during sleep; lies with its eyes partially open; often wakes or starts up in alarm, without any cause.

Light is badly borne.

Now this precursory stage may last four or five days—after which the second stage may be considered to have commenced. Here we may recognise the disorder, though much of the hope of recovery must be given up. The face shows anxiety and suffering; the child wishes to lie quiet and not be disturbed; there are no intervals of cheerfulness; the eyes are kept closed, eyebrows knit, as if the child strove to shut out the light from the too sensible eye; skin continues dry; face flushed; head hot. The replies to questions are very short, generally rational; much irritability; drowsiness increases. Sometimes a short, sharp, lamentable cry is heard, which Monsieur Coindet considered characteristic, and therefore termed it the hydrencephalic, or watery-head cry, alternating with a low moan. In other cases, children scream out "My head! my head!"

As night approaches, the symptoms increase in intensity, and the quiet state of the day is changed at night for an excited state, and violent complaints are made about the head's suffering. Delirium may now appear. The pulse quickens—may become irregular or diminished in power.

The eyes are sometimes kept so firmly closed, that we can hardly get a peep at the pupils. Usually they are not much affected; but sometimes one is more dilated, and acts more sluggishly than the other. At times squinting exists, at least, in one eye.

Vomiting seldom continues beyond the commencement of this *stage; but there* is no more desire for food or drink *than before the* cessation of vomiting.

The bowels become more and more confined, and so shrunken, that such a shrunken form was considered characteristic of hydrocephalus. The evacuations continue unnatural throughout.

The third stage commences by a deepening of the state of drowsiness, and this drowsiness becomes a stupor, from which it is impossible to awake or arouse the child.

An attack of convulsions sometimes precedes this stupor; and they affect, in most cases, one side more than the other, leaving behind them one side more or less palsied, or the limbs stiff and contracted. The child is continually moving the other side, the one not palsied, carrying the hand to the head, and bending and stretching out the leg.

The child now lies in a state of complete insensibility—one leg stretched out, the other drawn up to the body, and picking its lips. The head is flushed, and usually remains permanently hot—the skin is dry, though perspirations may break out—the pulse becomes a mere thread, and too rapid to count—squinting is observed, but the light no longer offends the now insensible eyes—the eyelids are open and the eyes turned upwards—they roll—the pupils are fixed and glassy—the whites of the eyes bloodshot—and the back part of the head is kept boring into the pillow—and ere long a fit of convulsions terminates the suffering.

The symptoms run this course in many cases—but they may vary. All attacks are usually preceded, by signs of impaired general health—sometimes by cough and a threatening of the chest, until vomiting, convulsions, stupor, and coma, point out where the mischief is going on.

Dr. Gölis, of Vienna, divides this disease into four stages—the first of turgescence—dry skin—hands to head—pulse weak—gait tottering—this stage lasts often fourteen days.

2nd. Inflammatory period—the signs of inflammation of the brain—lasts two to six days.

3rd. Period of effusion—insensibility in every shape—picking of nose—kicking of bedclothes—emaciation advances—and complete coma is established—lasts from ten to thirty days.

4th. Stage of palsy.—Convulsions then palsy—generally of the right side, with cramp—drawing the head backwards—pupils dilated—stools passed involuntarily, &c.

Worm fever may be confounded with this disease—the differences are as follow:—

ACUTE WATER IN THE HEAD	THE WORM-FEVER
Seldom lasts less than thirteen, or more than thirty days — has stages — if not cured in first or second day, always fatal.	Has no stages—seldom terminates before the twenty-first day—often not till the fortieth, and may be cured at any period of the disease.
No distinct remissions—is never epidemic.	Has commonly remissions, and is sometimes, though not commonly, epidemic.
In second stage, has violent pain in the head.	The pain is dull, and exists at same time in the belly — but dull and not distinct there.
Appetite in first stage is lost — costiveness — urine scanty—at first, milk-white, then yellow, with sediment.	A greedy appetite—large stools are often passed, and much colourless urine.
The pulse, in the first stage, is almost natural—in second and third, preternaturally slow—in the last only, quick.	In worm-fever, pulse is always quick.
Skin is dry, until effusion occurs.	Perspiration after eating or drinking, with fever signs.
Walk unsteady and uplifted.	Walk only slow.
The sight over-sensible in the first stage—dim in the second — and blind in the third.	Not so in worm-fever—there is no blindness—the nostrils are moist.
Vomiting invariable in the second stage.	Vomiting is accidental—when worms get into stomach—peculiar foul smell of the vomited matter.
The head is hotter than other parts.	The belly is hotter than other parts.
Emaciation—belly falls in —no flatus.	No wasting—belly does not shrink — and there is wind in the bowels.
Palsy, cramp of spine, general convulsions.	Convulsions without palsy.

Acute Water in the Head.	The Worm-Fever.
Near the end, a hectic flush, with alternating paleness—and tips of fingers red—a peculiar eruption about the mouth and other parts.	Not so in worm-fever—and if there is any eruption it is only a miliary one—which is an usual accompaniment of gastric disorders.
Countenance expresses suffering.	Not so in worm-fever.

Convulsions proceed from some affection of the spinal marrow, and they may be excited by causes susceptible of removal—still they accompany, as we have seen, the foregoing very fatal disease. We should take alarm when we see the thumbs drawn into the palms of the hands, either habitually, or during sleep—when there is not only twitching of the angles of the mouth, but of the face and limbs—when there is sudden starting from sleep—the face flushed or livid—the eyes turning up under the upper eyelids—the pupils dilating, the countenance betrays anxiety or terror—and when the child utters a cry or shrieks occasionally.

These signs indicate, that nerves are involved which belong to the brain, and not to the spinal marrow.

To add to the difficulties of this distressing disease, we not unfrequently meet with deceitful lulls or remission of violence in the symptoms, which give great hope to the anxious parent; who begins to fancy recovery almost secured; and even the medical man has been sometimes induced to give, and entertain a hope which the result disappoints, causing only the greater distress to anxious relations.

We must be on our guard, against mistaking for this, another disease of the head, which resembles in many of its symptoms this inflammatory one just described; and it is the more necessary to avoid any mistake, because the treatment of the two is very different; and what would be beneficial in the one, would cause death in the other.

In inflammation of the brain, there is an inflamed state of the brain, accompanied by increased action of the blood-vessels. In this disease there is a want of blood, or a diminished supply of the red blood; and thus we find, that exhaustion of the nervous power may produce symptoms

very much resembling those proceeding from a reverse condition; and defect of pressure on the brain causes symptoms much resembling those proceeding from excessive pressure.

If a human being were to bleed to death, as in uterine hæmorrhage, we see these persons become delirious, convulsed, and then insensible, with a wide and fixed pupil—and these are the signs of a reverse state;—how are we to distinguish?

This disease has been called spurious hydrocephalus, or water in the head. Dr. Gooch first described it.

There is heaviness of the head, and drowsiness—the patients were from a few months to two or three years old—they were of small size, or else had been badly nursed, badly fed, or been weakened by some exhausting disease. The physician finds the child lying on its nurse's lap, unable or unwilling to raise its head; half asleep—one moment opening its eyes, the next closing them again, with a remarkable expression of languor. The tongue is slightly white—*the skin not hot;* at times the nurse remarks that it is colder than natural—in some instances there is an occasional transient flush. In all the instances seen by Dr. Gooch, there had been leeches applied, purgatives given, and all the usual measures of treating inflammation of the brain had been in requisition, not only without benefit; but with aggravation of all the symptoms.

The distinctive characters of this spurious form of water in the head, are—a pale, cool cheek—a half-shut, regardless eye—an insensible pupil—an interrupted, sighing respiration: and our judgment may be aided by the history of the case, by learning what has preceded in the shape of exhaustion—producing causes, bad food, weaning, diarrhœa, &c. What adds much to the difficulty in discriminating, is derived from the feeble attempts at reaction which are set up; then great care is required.

We should pay particular attention to one circumstance, which some authors declare to be characteristic—and that is, as to the state of the fontanelles.

The fontanelles are certain portions of the newly-born child's head which at birth are not covered with bone, but with cartilaginous membranes. Every nurse knows these softer spots. It is by examining the fontanelles in young children, that we can discriminate between a state of ex-

haustion and one of congestion—between too much and too little pressure—between fulness and comparative emptiness.

If we find the surface of the unclosed fontanelle convex and prominent, the symptoms proceed from fulness and inflammation; if the surface is concave and depressed, then there are emptiness of the vessels, and want of support to the brain. In the former case, leeching and depletion must be used, and they will do good; in the latter, we must give ammonia or brandy; and support the powers, avoiding evacuants and depletion of all kinds.

Since the time, when the existence and proper treatment of this spurious hydrocephalus was established, similar principles have been applied to other diseases; and many a patient, who might have been leeched, and purged, and low-dieted out of life, has been saved; and it is now well known to the practical man, that in many cases, signs of excitement—it may be of great excitement—may exist, which will admit of and require a treatment, which might appear to be totally inert; because they are co-existent with a want of power in the constitution, and of strength to withstand the assault of the disease, and the effects of an exhausting, or depleting system of treatment.

The treatment of this spurious hydrocephalus, is in giving to a child, about a year old, eight or ten minims of the aromatic spirit of ammonia, in a little water, every four hours; and, in ordering asses' milk, from a pint to a quart in the twenty-four hours. All exhausting discharges must be restrained, and all causes of debility removed. If there is diarrhœa, a little compound chalk-powder (*See* DIARRHŒA). The child must be kept in a recumbent position—admit free air—but keep the child's body and limbs warm with flannel.

Instead of the ammonia, from five to ten drops of brandy may be given, in arrowroot, every four hours.

Treatment of Acute Water in the Head.—This is an inflammation; and the only means of safety, lie in its complete removal: but we must bear in mind, that it is an inflammation in scrofulous children, and that there co-exists a want of power and strength, such as has just been alluded to.

Blood used to be taken away by the lancet, even to fainting, once or twice; but some of the most judicious practitioners now rely upon leeches, and think they produce an effect, tantamount to venesection. They should be

applied rather to the crown of the head than to the temples—where they dangle about the eyes to the terror of the child—or than behind the ears, where they are liable to be rubbed off, as the child's head rolls about from side to side. The number of leeches to be applied must depend on the age of the child, on the violence of the symptoms, and on the greater or less apparent strength of its constitution. Assuming that one leech will, on an average, cause the discharge of one ounce of blood, says Dr. Watson, we may apply three of them to a child of six months old; that is, if the symptoms are violent. If fainting occur, the flow of blood must be stopped. A full bleeding for a child of five or six years old, is six ounces, says the authority just quoted; but the measure and test of salutary bloodletting may be seen, in the effect produced at the time. The first bleeding, whether by leeches or lancet, should produce a manifest and decided impression. The force of the early disease is more surely and safely thus broken, than by bleeding in driblets.

If the pulse continue equally high, the pain equally distressing, the fever as great, as they were before the application of the leeches, and the child's strength does not seem materially reduced, again apply leeches; but as soon as general convulsions or the state of coma occur, taking away more blood is useless and pernicious.

Purgatives should form our sheet-anchor, whether preceded and accompanied or not by drawing of blood. They correct depraved secretions—they clear the bowels of all irritating contents—and they seem to derive from, that is, lessen the load on, the brain. The purgative should consist of calomel and jalap, or of calomel and of scammony; and senna and salts must be given to secure their operation.

Purgatives are very effective agents in combating inflammation of the brain, whether in the child or the grown-up person; and no other means produce so decided a relief as purgatives.

The calomel and jalap or scammony, unfortunately, are rejected sometimes from the stomach; then a large clyster may help materially, both in settling the stomach and in procuring stools. A drachm or two of magnesia, saturated with lemon-juice, every two or three hours, has quieted the irritable stomach, and procured motions. The purgatives are to be continued for several days. This disease of

the brain seems to cause a torpor of the bowels, so that it is often very difficult to procure evacuations from them. The late Dr. Gregory, of Edinburgh, gave one child 140 grains of calomel in five days; yet the bowels were not relieved till the patient had taken thirty grains, and a second dose of thirty-five grains of jalap. In another child, of twenty-eight months old, 350 grains of calomel were given in nine days (nearly forty grains a day); and in six of these days, 136 grains of jalap (more than twenty grains a day). The effects were a gentle purgation from the jalap, none from the previous calomel, and but slight salivation. The child recovered after having been nearly in a comatose state.

Of course we must try small doses at first.

Cold applied to the head, is especially useful, when there is much heat of head, and after the bowels have been freely opened. A linen rag, wet with cold water, or spirit and water, must be put and renewed as often as it becomes hot—or water may be allowed to drop continually upon the heated head; and the dripping stream should be continued, until the head no longer recovers its high temperature, upon intermitting the dropping.

Mercury is much relied on, by many in this disease—and some would salivate, if they could—for they have observed some cases to do well, when salivation has commenced. It is, however, very difficult to salivate children fortunately—for, when salivated, they suffer much indeed. Calomel should be given in moderate doses, about one grain, or even two grains, every four hours, to a child about twelve months old. If these doses purge, do not add opium—but some kino or catechu—and if it still operate freely on the bowels, discontinue the powders—and let 30 or 40 grains of mercurial ointment be rubbed into the inside of the thighs every night. In all cases, discontinue the calomel as soon as green evacuations pass from the bowels, resembling wet tea-leaves or chopped spinach.

Blisters during the early inflammatory stage should not be applied—they may only add to the irritation—but during the period when coma makes its appearance, blisters are likely to prove serviceable.

Dr. Gölis' plan of treatment, whose great experience in this disease gives weight to his recommendations, is this—

In the first stage: a dark room—repose—to be kept

cool rather than warm. In children from one to five months, one fourth of a grain of calomel—in those from six months to two years, half a grain every two hours, till four or six green stools appear. In irritable costive habits, a few grains of roasted jalap may be added. If colicky pains or looseness ensue—leave off, and resume the calomel at longer intervals—but violent pains in the belly, diarrhœa and gastric irritation, forbid calomel.

Emollients may be given. Infusions or decoctions of marshmallows or barley—or gum arabic water, with or without nitre. Gum arabic emulsion relieves the headache sooner than anything. No other medicines externally—cold to head—mustard footbaths—blisters and mercurial frictions—this is the only stage for mercurial frictions. Mercurial ointment 60 grains to nape of neck, back of head, and thighs, every three hours.

Inflammatory stage—bloodletting—in children from six to twelve months, if the attack be sharp, three, four, or five ounces of blood may be taken—but the author relies upon leeching—and in children of the second, third, or fourth year, six ounces of blood have been drawn. A second bleeding should never be required. Continue the calomel, until colicky pains and green stools follow. Cold to head—applications to feet as before—blisters to the belly; for if applied to the head, they interfere with the cold applications. Too late for mercury.

And if we have succeeded in checking or curing the disease, then tonics with caution—and blisters kept up for some time. In the two last stages the treatment is merely palliative. Such are the directions of Dr. Gölis, as the most conformable with his experience.

In this, as in every other fatal disease, prevention ought to be the great object aimed at—by avoiding all exciting causes of disease—whether mental or corporeal; disease once established in a scrofulous habit, is very difficult to combat.

Chronic Hydrocephalus, or Water in the Head.

The acute form is an inflammation—this may be termed a dropsy. There are certain parts of the brain, called ventricles, or little cavities, within which a watery fluid collects—and why it collects we know not, only we observe *that such* circumstances happen only, or chiefly to those

who are of a strumous habit. This collection happens at an early period of life, and before the whole of the brain-case has become solid—the bones, or rather the containing parts, yield to the pressure—and the head is increased in size, and the functions of the brain are more or less deranged. Sometimes these collections of fluid have taken place before birth, and the pressure during child-birth has caused the head to burst, and death immediately to ensue; but in most cases, the fluid begins to accumulate at some uncertain period after birth; and the collection increases often rather rapidly; and the bones are separated from each other, as the pressure from within the skull continues to increase—the forehead is tilted forwards, so as to overhang the brow—the side bones of the head bulge above—the back head bone is pushed back—and the head may become long, broad, and deep—but flattened at the top. The inward pressure from the fluid, might cause the head to assume different shapes, but in all, there is a peculiar and odd look—the face is triangular; for while the bones of the skull are, it may be, rapidly enlarging, the bones of the face do not grow faster than usual—perhaps not so fast. This disproportion between the size of the head and face, is said to be very characteristic of water in the head.

The child is topheavy—and the muscles of the neck cannot support the weight of the enlarged head—and the child is found to be deaf or blind—or perhaps, palsied in one or more of its limbs—or idiotic—or all these. The issue of the majority of these cases is, that they either die or recover during infancy—a few survive, for an uncertain number of years—and enjoy sufficient intellect, for the common purposes of life. In these latter cases, the liquid within the brain causes the substance of the brain itself to expand into new forms—there is no loss of the substance of the brain—for the pressure of the contained liquid has been gradual, and the unfolding of the brain has been also gradual. So long as the brain-case yields to the pressure, and there is no counter or opposing pressure, all goes on well enough; but there is a time, when the opening in the skull, so remarkable at birth (called the fontanelles), close up—and this time is a period of danger. It may happen, that though the fontanelles are closed, the bones of the head still have left intervals of membrane between the points of ossification, which yield to the pressure—and

it may happen that the distending force causes the lines, called the sutures, to break open, and to separate more or less widely—effectually relieving from all pressure.

Treatment.—Mercury seems to be the only remedy that has done any good; though purgatives and diuretics have been praised. Leeches occasionally may be applied—and they will help. The German physician Gölis, who has written on this subject, advises us to give calomel, half a grain, twice a day, or if half a grain purge, then only one fourth of a grain—and also at the same time, to rub into the scalp from twenty to forty grains of mercurial ointment, mixed with ointment of juniper berries, every night—and a woollen cap is to be kept constantly on the head. Ptyalism (an abundant flow of saliva) is but seldom produced in children.

There are two mechanical remedies—one acts by relieving the pressure, and the other by compressing the skull-bones. The first can only be done by a surgeon—it is to let out the fluid by operation: and recoveries are on record of the successful results. The other might be tried—it is bandaging the head. We have seen, that safety can only be secured by the yielding of the bones, so long as the fluid is increasing; but when the disease is stationary, and the unconnected bones are loose, and the child pale and languid, moderate pressure may help very much.

Strips of adhesive plaster, about three-quarters of an inch wide, are applied completely round the head, from before backwards, reaching low down to the tops of the ears, and lapping behind over each other. Cross strips are then applied. All will depend on the accuracy with which these strips are placed—for the pressure must bear equally over all points.

Dr Arnott's air press has been recommended, as well adapted for this purpose, instead of the strips.

The Thrush—Aphthæ—Stomatitis.

Symptoms.—Heat and redness of the lining membrane of the mouth to a greater or less extent—the tongue and mouth are often dry, the lips often swelled, and are surrounded by an eruption, and sometimes there is a dribbling of saliva.

This is inflammation of the mouth, which is caused by *improper feeding* or by cold, and requires usually only

mild drinks, barley-water, mucilage of gum, &c., unless it be merely a sign of irritation in the bowels—then the bowel-disorder requires attention. But there is also an inflammation attended with ulcers—and then the disorder is called the thrush. In some cases the ulcers are of a common character—they are usually large and irregular in shape, covered with white or yellowish sloughs or coats, and are surrounded by much redness. They may be observed on the inside of the cheek, roof of the mouth, or on the tongue even. Sometimes, about the period of the first dentition, the gums become spongy, and of a dark purplish hue, and the ulcers bleed often. Local irritation, with fever, restlessness, and disorder of the digestive organs attend.

Treatment.—Treatment of this ulceration consists in touching the ulcers with a linctus:—

No. 199. Of Borax or alum . . 5 to 10 grains.
Honey of roses . . 1 ounce.

in regulating the bowels—in light nutritious food, and exposure to fresh air. Should the ulcers not look better after a time, then touch their surface with lunar caustic, or with this very excellent application:—

No. 200. Of Sulphate of copper . . 10 grains.
Honey . . . . . 1 ounce.

Apply two or three times a day by means of a camel-hair pencil.

An anodyne may be required at night to quiet restlessness; and tonics, especially quinine, must be given.

The ulceration called the thrush, is a small circular white ulcer called aphtha, arising at the period of teething mostly; but also at other times.

These aphthæ in adults are connected with disease of some internal organ, mostly with that of the stomach and bowels, and they sometimes are so connected in children—and are most frequent in ill-fed children—and they may spread from the stomach to the mouth, or may co-exist at two distinct points, viz., the mouth and the anus. Kissing the lips of an aphthous child may cause the disorder, though the nurse's nipple does not become aphthous, but it may be red and irritated.

They sometimes spread epidemically.

Symptoms.—The ulcers do not always have inflamed

circular margins—the mouth is hot, and the child is fretful and uneasy. A small white spot appears, occurring singly or in clusters, on some part of the mouth or throat. When they are very numerous they quite cover the inside of the cheek, and become covered with a continuous crust or coating of a whitish hue. On removing this, ulcers are visible beneath, and the coating is quickly again secreted over them. These crusts as they become detached, are swallowed, and cause disorders of the bowels.

The bowels are deranged, being costive, and the secretions vitiated; or diarrhœa may attend, and acidity is present—difficult swallowing—and sometimes the tone of the voice alters—or the breathing is peculiar—or there is a cough. These last symptoms demand attention, for they give token that the inflammation has extended, or is extending to the air-pipes. When the whitish colour changes to a yellowish or dark colour, we should try to ascertain, if this proceed from their being tinged with bile or blood, or whether the changed colour is an indication of their assuming an unhealthy or gangrenous character. And we may fear this is the case, when dark sloughs replace the light coloured ones.

Gangrenous aphthæ become brown—are covered with a hard sort of crust, or one soft and of consistence like thick gruel or panada; but when detached, the part beneath, appears very red or granulated.

The parts around are of a violet hue, and a fetid smell occurs, and this is what is called the black thrush.

Aphthæ are not dangerous, whether attendant on other diseases or not, or numerous or of long standing or not, so long as they remain of a whitish colour, and the strength of the patient is not materially affected; but they are not favourable, when they accompany intestinal disorder—still less so, when the colour changes as we have described, and the strength fails.

They are most of all to be dreaded when an extension of the disease to the air-passages is to be dreaded—so, when the child's voice becomes hoarse or indistinct, and the breathing croupy and spasmodic, with fits of suffocation and cough, immediate danger threatens, if indeed the case be not already hopeless. It is wonderful, how small an amount of ulceration seems capable of destroying life, if once aphthæ pass over, or even reach the cheek at the top of the wind-pipe, or rather voice-pipe.

Treatment.—When these aphthæ are local, local means suffice to cure. A dose of castor oil, with the borax or alum linctus. If there is acidity, instead of castor oil, give

No. 201. Of powdered rhubarb . . . 20 grs.
„ magnesia . . . 40 grs.
Cinnamon powder . . . 10 grs. Mix.

Three or four grains every third hour, to a child of six months, until the effect desired is produced. Six to ten grains, if the child is a year old.

When the bowels are too loose, the compound chalk mixture; and every night, grey powder with Dover's powder; but when the general powers fail, then the quinine mixture and the ammonia, with the citrate of iron must be given.

No. 202. Of distilled water . . . . 1½ oz.
Sulphate of quinine . . 2 grs.
Sulphuric acid . . . . 16 drops.
Syrup . . . . . ½ oz. Mix.

Dose.—One to two tea-spoonfuls, two or three times a day.

The local treatment has been alluded to.

A solution of chloride of soda is useful, but the sulphate of copper is the most efficient application.

There are other kinds of inflammation in the mouth, with exudation—soft and white—the muguet of the French or millet; this may be called the white thrush.

Diphtherite, or Membranaceous Angina.

Then there is inflammation with exudation, firm tenacious lymph, which the French term Diphtherite. This is not attended with ulceration, but gangrene sometimes follows.

This form of inflammation varies, with the powers of the patient, and the degree or character of the attending fever and inflammation; and it may rage as an epidemic, attacking adults as well as children. Our chance of successful treatment depends, on our early distinguishing the nature of the disease; for that is the time to arrest its progress. There is an exudation or pouring out of a secretion, which forms a membrane, but there is no breach of surface—no ulceration.

We find the mucous membrane of the mouth and

gullet of a bright red colour, which membrane becomes quickly studded with specks or patches of false membrane, seen on and at the back part. They soon become a continuous layer of a thin, white, concrete substance in severe cases; or in still severer, the lymph is deposited in masses of a grey or yellowish colour. This may be scraped off, but it is soon replaced—the palate and neighbouring parts swelling, though swallowing is not difficult, nor is there much pain. The accompanying fever is slight—but when this accompanying fever assumes the malignant or typhus type, the epidemic is likely to be of a fatal nature.

This malignant form begins insidiously, but from the beginning there are signs of prostration of the bodily and nervous powers, which foreshadow the approaching danger. The redness is trifling, but swallowing soon becomes difficult, and often liquids are returned through the nostrils—the glands under the chin swell. The membrane formed is extensive, and is of a yellowish grey or dirty ash colour, and when tinged with blood it is of a dark colour, and smells most fetidly. If scraped off, the parts beneath are not ulcerated; and the fœtor seems to arise from the putrefaction of the membrane.

The danger arises from the extension of this membrane into the air passages, and this will certainly occur if the disease be not arrested in its progress; or if the sufferer be not previously destroyed by the accompanying malignant fever. The skin is cool—the pulse rapid and feeble—delirium and stupor follow—and the patient may be cut off in a day or two, or within the first twenty-four hours. The extension into the air-passages is made manifest by the addition of signs of suffocation—by a hoarse or indistinct voice—by a frequent, harsh, croupy cough—by laborious and convulsive breathing. The face becomes pallid—then livid—and coma or convulsion follows.

Strong and healthy persons, and children living in healthy sites, do not often suffer from this malignant form, though in an epidemic they may not be spared.

We distinguish diphtherite from the thrush, either white or black, and from gangrenous sore throat, by scraping off a portion of false membrane; when in the diphtherite we find the subjacent surface in a state of integrity, whereas in the other two, ulcerations become immediately perceptible.

Treatment.—Our main object is to prevent the spread-

ing of the membrane into the air-passages. To have a chance of doing this effectually, be careful to examine early the mouth; for the membrane is sometimes completely formed, before any uneasiness is felt in the parts. The instant we see the membrane, we must, by means of a camel-hair pencil, apply a strong solution of lunar caustic, (nitrate of silver) 20 grains to one ounce of distilled water —all over the diseased parts—and this must be repeated, to prevent a renewal of the membrane, which is liable to recur. Thus, we arrest the spread of the inflammation, and check the deposition of lymph, when done at the very outset. A saturated solution of the sulphate of copper—(that is, as much sulphate of copper as the water will dissolve) will produce a similar effect.

But if we see the disease in a severe, malignant form, or at a later period, our application must be more influential than the above stated; and we must apply freely by means of a piece of sponge attached to the end of a probang, or a common stick, a mixture of muriatic acid, with one or two parts of honey. The sponge is to be pressed firmly against the membrane, which thus, even after it has become putrid, has been destroyed and detached. It is often necessary to apply the acid a second or even a third time,—usually twice in the twenty-four hours will suffice.

Mercury has been recommended, and in grown-up persons it may be useful in checking the membrane—producing inflammation—but it is of little or no use with children, except as an aperient.

An emetic might be given at the commencement, to dislodge the membrane; but our chief reliance is on the local treatment, except in the malignant or epidemic form; then general treatment to keep up the powers becomes as necessary, as the local treatment. Ammonia, ether, quinine, and wine in arrowroot or sago, must be given, in proportion to the prostration, and to the progressive sinking of the strength. When the fever is of the mild character, James's powder, or any of the medicines to induce perspiration, may be given.

Change to another and perhaps a purer air, is requisite.

Canker of the Mouth

Is an ulceration, running rapidly into gangrene; the symptoms general and local resemble those already de-

tailed, except that no membrane is formed, nor aphthous specks. The treatment corresponds, and the applications of sulphate of copper or muriatic acid with honey are to be made in like manner; while the fever is to be treated early with tonics and stimulants—as typhus fever is combated.

Mercurial Mouth

Is known by a coppery taste, and a breath with a peculiar fetor in it, which may in most cases be easily recognised by those, who have once seen a case of mercurial gangrene in the mouth. Similar treatment with the foregoing.

Some constitutions are so peculiar in respect of the influence of mercury, that very slight doses of calomel, &c., produce a most extraordinary influence in them, and very slight doses have produced most alarming results. The author once gave to a lady a pill containing one grain of calomel only—yet the mouth, gums, and throat swelled to such a degree, as to prevent his patient from eating anything solid, and even from swallowing liquids for a fortnight. Had he been aware of the idiosyncrasy, he would hardly have dared to give one grain of calomel. Time—free air—support—tonics. If gangrene occur, the treatment already detailed, must be pursued.

One caution the author must give to mothers and relatives, and that is; when they see a case of ulceration or gangrene of the mouth in children, they must not immediately ascribe the symptoms to the doctor's injudicious use of mercury. The two states—namely, the mercurial gangrene and the simple gangrene—resemble each other in a considerable degree; and some medical men have nearly been ruined in their practice, by reports of their being so fond of mercury as to poison their patients; when the gangrene has proceeded from atmospheric and other causes, acting upon the constitution as poisons.

Infantile Indigestion

May be divided into indigestion during suckling, and the indigestion of weaning.

In the first, the child becomes peevish, fretful, loses *flesh, notwithstanding* its sucking vigorously; but the *more the child* sucks, the worse it becomes—the milk is

soon thrown up again in a curdled state, or it is rapidly passed downwards—griping, flatulency, and acidity are present—until at last a diarrhœa sets in, which carries off the infant in from two to four weeks.

Treatment.—The cause must be discovered, and, if possible, removed: if the milk is bad, the nurse must be changed; and to check the diarrhœa some chalk mixture, with a very cautiously proportioned addition of opium. The following may be tried.

No. 203. Of	Chalk mixture	1½ oz.
	Bicarbonate of soda . . .	10 grs.
	Syrup	2 drs.
	Tincture of opium	4 drops.

One teaspoonful three times a day; increasing the dose gradually.

Indigestion during Weaning.—There is always a risk of disease at weaning time, and the irritation of dentition takes place about this time, too. The food is thrown up, and irritation of the stomach may be permanently set up. It happens more frequently in autumn, and the supervention of the weaning-brash during autumn is so remarkable, that Dr. Cheyne advised weaning to be postponed, beyond the autumn months, if possible. Bowel-complaints are always prevalent during the autumnal months.

Symptoms.—A purging of green matter is generally the first symptom, and this disease has by some been called the green scour. Retching and vomiting are added—then short periods of constipation may alternate—the biliary secretion being suppressed, the stools being light and clay coloured, thin and watery, or thick, like half-boiled flummery. Peevishness—restlessness—no desire for food, only for drinks—little fever—pulse scarcely affected—skin not very hot—cold feet and hands—the belly full, but not tender—tongue long continues clean and moist, but aphthæ may appear at last. In some, coma and convulsions come on, and the emaciation becomes extreme in about four to six weeks. If vomiting be added to purging, the case assumes the appearance of cholera.

The food disagrees—an irritation is set up in the bowels; and to this, inflammation and ulceration succeed.

As to the result—we may often give hope to a despairing parent, even when her child is lying in a state of great emaciation—provided we are sure that we have discovered

the cause, and also that we can remove it, it is surprising from what a state of exhaustion an ill-fed infant may be recovered.

Treatment.—Change the nurse, or give asses' milk, with weak broth, free from fat; then arrowroot, or barley water, with gum or isinglass dissolved in it, may be given. Milk disagrees in general, and, if given, it should be previously boiled and diluted with one or two parts of water. Boiled bread and milk, or rice milk, have been found to disagree. A good drink may be made by scraping some flour which has been boiled in a napkin, and allowed to become dry, into equal parts of milk and water; then boiling and sweetening the mixture. Avoid always much sugar.

For medicines, those which check the vomiting and purging, while they allay the irritation, are the best. Throw up a lavement of starch mucilage two ounces, and one drop of tincture of opium. Then this mixture:—

No. 204. Of Cinnamon water . . . . . 1 oz.
Chalk mixture . . . . . ½ oz.

Or instead,

Compound chalk powder . . 40 grs.
Tincture of kino . . . . 2 drs.
Syrup . . . . . 2 drs.
Tincture of opium . . . . 4 drops.

One to two teaspoonfuls every second or third hour, until the looseness is checked; then give it after each liquid stool.

If the stomach be very irritable, give this—

No. 205. Of Mint infusion . . . . . 1 oz.
Mucilage of gum arabic . . ½ oz.
Liquor of potash . . . . 6 drops.
Syrup . . . . . ½ oz.
Compound spirits of lavender 30 drops.
Tincture of opium . . . . 2 drops.

One to two drachms for a dose.

Fomentations to the belly, of hot flannel, or the warm bath, if the child is strong enough.

If the stools are clayey or light coloured, two or three grains of grey powder, with a grain of Dover's powder, or two of the compound chalk, with opium.

When debility and exhaustion come on, a drop or two of *spirits of ammonia*; as in foregoing cases.

Cholera of Infants and Children.

This is met with in the autumnal months. The symptoms need not be described at length—the pale and shrunk countenance, cold skin,—the prostrate, comatose, seemingly dying state, with stools yellow or white, or green, as if loaded with some chopped vegetables, and almost constantly running away—declare at once this dangerous disease, of which the infant may perish in from twenty-four to forty-eight hours.

Treatment is the same as that of the last, only there is no time to be lost. The following mixture should be given—a teaspoonful every hour until the evacuations up and down are checked—and usually a protracted sleep follows the second or third dose, from which the child awakes tranquil and refreshed, the stools becoming more natural probably, and less frequent.

No. 206. Of Infusion of mint } of each 1 oz.
Cinnamon water }
Tincture of catechu . . 2 drs.
Spirits of ammonia . . 1 dr.

Or

Spirits of sulphuric ether 1 dr.
Syrup . . . . . 2 drs.
Tincture of opium . . 10 drops. Mix.

To those who know how dangerous it is to give opium to infants, the opium in this mixture might seem alarming; but nothing less energetic will succeed, for if the disease is not at once checked, death is certain. In extreme prostration, double the dose may be given. Port wine in arrowroot, or brandy and water, or a little burnt brandy. As soon as the skin becomes a little warm, diminish the stimulants, or discontinue them.

We must prepare ourselves for deceitful lulls or remissions; and the cessation of the vomiting and purging are not favourable signs, unless there is at the same time a general improvement, and in particular unless the drowsiness and oppression disappear, without being succeeded by restlessness or screaming, for the vomiting and purging sometimes go off just before death.

Avoid giving any purgative after recovery, even though the bowels remain long confined. We must not forget this rule—it is important.

Diarrhœa.

A precarious appetite, or none at all—thirst—tongue loaded, being white or yellow, with sometimes the sides and tip red—aphthæ—flatulency, acidity, and griping. Soon emaciation is added.

The stools may be feculent at first, only very liquid, but they soon begin to be charged with mucus, and they consist often solely of mucus, which appears like jelly, quite transparent, or lying at the bottom of the vessel like semi-transparent mucilage. This excess of mucus may be connected with an inflammatory state, or a highly irritable state of the mucous follicles, and with a superabundant mucus in the stomach and bowels; and this latter is evidenced by what is vomited, and by what passes from the bowels. Worms may cause this mucous diarrhœa. The stools are sometimes of a bright green or a grass green colour, and the looseness has been called bilious. This is accompanied by irritation of the bowels, especially of that part into which the bile ducts open.

Yellow and frothy, or very green stools, with pain in belly, are signs of inflammation of bowels. Derangement of the liver is usually attended with dark brown motions, or even black like pitch, and very offensive.

Some motions are thin and watery, often limpid, or nearly colourless, with flakes or shreds intermixed it may be—these constitute the

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Watery Gripes,

And they arise from excitement of the exhalants in the bowels, and are allied to the mucous looseness above described. All these may result from an inflammatory state, or a state the reverse; a state of debility or atony. The general symptoms will declare, which is the accompanying state.

White Stools

Are to be occasionally met with, in the shape of very copious, thin, and very white stools. Here, there is an absence of bile, together with some alteration in the glandular secretion of the bowels. In all cases, the stools are increased after eating, and it seems as if the food were *hurried immediately* through the bowels.

The flatulency is troublesome, and even threatening to life. We must distinguish between this flatulency and the drum-like belly of inflamed bowels; but pressure relieves in the former, while it distresses and adds to the pain or tenderness in the latter; the other symptoms may resemble each other in both states; the history, too, of the complaint may help us, in making out the true state existing. The acidity is sometimes so predominant as to excoriate the infant's lips, or redden the blue colour of its dress: and this acidity and flatulence attack in fits in some cases, recurring at a particular hour. The stools are ejected with force and bearing down (tenesmus), and

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Prolapse of the Anus or Bowel

Is not unfrequent. Here a large portion of the membrane of the bowels is protruded, which may inflame, ulcerate, or become gangrenous. Blood is at times discharged from the bowels.

In diarrhœa, the state may degenerate into a chronic form, and may depend on chronic disease in the mucous membrane of the bowel; or it may depend on a want of tone, or habitual derangement of function,—and when long established, it may be difficult to remove; while children, who have suffered, are liable to a recurrence on committing any errors in diet.

Treatment.—Diet is the first point to attend to—sometimes the sole one necessary; the food should be in small quantity, of least stimulating quality, easy of digestion, and leaving as little residue as possible.

In the recent stage, gum-water, barley-water slightly sweetened, or the two mixed, form both food and drink. Then, arrowroot made thin may next be given, and is very good food, being little liable to become acescent; but, as Dr. Evanson observes, arrowroot is not usually liked by children.

Milk, or bread and milk, or the breast-milk even, usually disagrees—Rice is a chief article of diet, it leaves but little excrementitious matter,—it must be thoroughly boiled, and may be moistened with broth or water. Then light broths—chicken broth, — and then, if the child is old enough, chicken itself, with rice—or some of the gravy of roast mutton with rice.

Vegetables must be avoided, also fruits, also veal, lamb, or fish.

Keep the surface warm—a flannel swathe round the abdomen—fomentation—friction—change the air.

As to medicines, the question which first arises is, shall we begin with an aperient, to clear away offending matter, or with astringents, to stop the stools at once?

We may use aperients when the diarrhœa is recent—when it occurs in connexion with an overloaded state of the bowels—is accompanied by feculent motions in full overfed children—and in cases attended with much fever. But when the infant is young, and the evacuations profuse, we should give astringents, &c., immediately.

Opium and the alkalies, are the remedies indicated; carbonates of potash or soda; then the compound powder of chalk,—and all combined with opium.

When there is acidity, the chalk mixture,—this acidity is known by the light green and watery evacuations—by the smell—by pieces of curd appearing in the stools,—and by the green colour becoming more vivid on standing—by a sour smell of vomited matters, and the curd in them,—and by a dense white coat on the tongue, which is a stratum of milk—coagulum.

For bearing down: 5 or 6 grains of carbonate of soda or of potash, with 1 drop of tincture of opium, in 2 oz. of starch mucilage as a lavement, is often effectual.

This mixture is a good one:

No. 207. Of Cinnamon water	1	oz.
Mint ditto	½	oz.
Carbonate of soda, or of Compound chalk powder	10	grs.
Tincture of opium . .	6	drops.
Syrup	2	drs. Mix.

60 to 120 drops, three or four times a day, according to age and the number of stools.

If the looseness do not yield, we must add to the mixture two drachms of the tincture of kino, or of catechu, or of both, instead of the half ounce of mint water.

Kino may be given, even when there is some inflammatory disposition left. It will restrain the over secretion of glands, and will check diarrhœa; but it does not induce a tendency to costiveness afterwards.

When the stools are loaded with much mucus, then we

should add small doses of ipecacuan,—or give some at night as in Dover's powder.

Diarrhœa, then, ought to be arrested when exhaustion is produced, but we must be very cautious when it is of long standing, and does not seem to be doing harm—as in teething, or when the looseness seems to be the result and accompaniment of inflammation,—in which latter case, it may do good by reducing or carrying off the inflammation.

The remedies are the chalk mixture, with or without opium, to which kino and catechu may be added, if the looseness do not yield; but on any heat or fever arising, the astringents must be discontinued, and fever medicines given, fomentations used, &c.

When the bowel comes down, return it gently, and throw up an ounce or two of lime water,—and give brown sugar or molasses for diet, to make the motions soft. As the health returns, the bowel will no longer protrude. When convalescent, the bitter infusions are useful.

The term *weaning rash* has been applied both to indigestion and diarrhœa; and must be treated as above stated.

Worms in Children. (*See* Worms.)

Croup, True and Spurious.

This is most common between the first and tenth year, and seldom occurs after puberty. It is an inflammation of the voice-pipe, (larynx); and of the air-pipes, (trachea and bronchi;) and it ends by forming a membrane on the inner surface of these tubes.

The organ of voice has a chink called glottis; the size of which remains nearly equally narrow, up to twelve years of age; after puberty, this chink enlarges considerably, and suddenly,—in the male, in the proportion of ten to five,—in the female, of seven to five. The limit of the period of occurrence of this serious disease is thus marked.

Some families are much affected with croup; and it is very rife in some damp, cold situations.

Once attacked, there is a liability to a recurrence on slight causes,—but those weaned are more liable than suckling children. During the north and easterly winds, and at the end of winter and spring, it is frequent.

Symptoms.—Those of common catarrh, with hoarseness and rough cough. The attack is sometimes sudden, but hoarseness and cough are suspicious, when there is any reason to suspect an attack of croup. A single cough, as if the sound came through a brazen trumpet may be the first sign; the voice becomes sharp and peculiar,—the breathing loud, difficult, laboured, and during inspiration (the drawing in of the breath), there is a crowing sound—the face is swelled, red, eyes suffused—skin hot, pulse quick and hard to the feel, thirst, restlessness,—the child feels an obstruction to breathing in his throat.

After a longer or shorter time, the fit subsides; then, if no relief be obtained, the breathing becomes more laboured and wheezing, the cough hoarser and more stifling—the countenance pale or livid,—the skin becomes cold and clammy,—dark, bad-smelling stools are ejected,—coma, or convulsions may terminate the attack; or the child may, after great efforts, throw up portions of a white membrane with some matter. Death may take place between the third and fifth day; or the disease may become chronic, and continue for two or three weeks. A sudden spasm may cause suffocation.

Stretching the neck by throwing the head backwards, seems to give some relief.

Diphtherite may be mistaken for this disease,—but the history and presence of thrush will show the former.

Hysteria may simulate croup; but the former attacks only adults.

All diseases affecting the larynx (voice-pipe,) are attended with spasmodic signs, occurring in fits, hence the origin of spasmodic, or spurious croup.

The distinctions may be thus laid down:

True Croup.	*Bastard, or Spurious Croup.*
Catarrhal signs always,—sneezing, running from the nose, cough slight at times—short, but always hoarse; trumpet-toned cough; hissing inspiration during the fit; face swollen, purple; eye livid, protruding; *lips livid* or blue; and	A fit, often occurring several times a day, when the child is in perfect health—crying, laughing, awaking from sleep on any excitement. The spasm of the glottis terminates in a long drawn noisy inspiration, and then the child appears

the signs of course as above detailed.

The true croup depends on inflammation; and it is a much more dangerous disease than the spurious.

as well as ever. The attacks are sudden, but when they occur at night, a mistake might occur. Between the fits, true croup is marked by the continuance of the suppressed voice, peculiar breathing,—whereas in spurious croup these soon cease after the fit.

Treatment.—An emetic is the first remedy. Give from one to three teaspoonfuls, according to the age, of the following mixture, every quarter of an hour, until the child vomits:

No. 208. Of Distilled water . . 1½ oz.
Tartar emetic . . 1 grain.
Syrup . . . . . ½ oz. Mix.

To this, half an ounce of ipecacuan wine may be added, if it is at hand; if not, do not wait.

Then if there is fever, hot skin, &c., apply leeches to the top of the chest-bone, and keep up a feeling of sickness by giving a drachm of the emetic mixture, every half hour or hour, or second hour, and give two grains of calomel every third hour—also place the legs in a bath at 98 or 100 degrees of temperature. If after two or three doses of the calomel, the bowels are not open, give castor oil—one, two, or more drachms. The breathing becomes less laborious, and the cough looser than before—then we must observe a low diet, and keep the sufferer in a warm air.

If we do not see the attack in its early stage, we must still excite vomiting, keep up nausea, and give calomel, in three-grain doses every third hour. Blisters to the chest bone are here useful.

If the child is cold and sinking, we must give ammonia, wine, and burnt brandy—and children despaired of, have recovered in a surprising manner.

An operation has been proposed—but it is useless, as the membrane extends too low, to allow of success.

Mr. Kemble has met with great success; and yet never bleeds nor blisters. He confines the child to a warm

atmosphere and an uniform temperature, gives an emetic, and in an hour after the vomiting, this—

No. 209. Of Powdered valerian root, 2 drachms.
Oxymel of squills . . 1 oz.
Tincture of opium . . 20 drops.
Distilled water . . . 1 oz. Mix.

To a child from two to five years old, he gives a teaspoonful every hour; to one from five to eight, a teaspoonful every forty-five minutes—and the symptoms are found to give way in ten or twelve hours—never continuing longer than forty-eight hours. After they subside, a brisk dose of calomel and jalap should be given.

In bastard croup, if the breathing is very much impeded, an emetic, or the nauseating mixtures, and we must prevent a recurrence by keeping in an uniform temperature—rubbing tartar emetic ointment or liniment on the spine at the neck—by keeping the bowels open—by shower bath, and by occasional or regular doses of carbonates of soda or potash, in some one of the simple bitter infusions.

The various inflammations of lungs, stomach, bowels, kidneys, or bladder, may occur in children as well as in grown-up persons—the treatment of those diseases has been detailed in preceding pages—only we may adapt our remedies to the age and strength of the patient, and to the violence of the symptoms.

The Measles—Rubeola.

This is an eruptive fever, affecting the mucous membrane of the air passages, with a red rash over the body, the rash appearing in about three days' time.

Symptoms.—Languor, shivering, heat of skin, thirst, and the usual signs of fever. Common catarrh seems to be threatened; but there is a dry, hoarse cough, at times croupy, frequent sneezing, suffused and watery eyes, feverish face, heat and chills, quick pulse, scanty urine, hot and dry skin, sometimes vomiting and purging, at others the bowels are costive; delirium in some cases, and the patient is worse towards evening. In three or four days—in rare cases, in seven or eight days—round, red dots *appear on the* forehead and face, afterwards upon the body

and limbs. On the fifth day, the whole body is usually covered with the eruption—this declines on the sixth day, and by the tenth, it usually disappears. The rash gives a sensation of hardness to the finger—separate elevations may be felt, which run together into patches of an irregular semicircular form. The skin between them retains its natural hue, and the patches are of a lighter colour; but the colour may change to a darker colour, so as to constitute the black measles; which latter are of unfavourable tendency.

The patches are at last covered with scales, which become detached, and cause a troublesome itching.

The fever, in favourable cases, abates as the eruption appears, though cough may remain troublesome.

The measles are subjected to certain laws in a very remarkable manner:—

1st. They usually attack only in the commencement of life.

2ndly. They occur but once in the same individual; though there are some rare exceptions to these two rules.

3rdly. They run a certain definite course as to order of symptoms, and as to their duration.

4thly. They afford the only certain examples of disease being propagated by contagion, though they occur as epidemics at certain seasons of the year—namely, spring and beginning of summer; in which latter case, they spread independently of contagion.

5thly. They have the power of suspending the action of other epidemics—thus epidemics of measles and small-pox may occur simultaneously; but the small-pox, after it has been received into the constitution, may be suspended by an invasion of measles; and then resume its course, after the measles have terminated their course.

Measles are not dangerous in themselves, but they may be complicated with inflammation in the brain or chest, but chiefly in the chest; when imminent danger may very soon be incurred—then measles are apt to leave, what are commonly called the dregs of the measles, and they may assume the form of ophthalmia, scrofula, diarrhœa, or consumption.

The latent period in measles—that is, the time between the attack and exposure to the cause, is from ten to fourteen days.

The character of the epidemic may be malignant.

Treatment.—When the course is regular, and the fever

moderate, the treatment is very simple—diluent drinks—some fever medicines, with the addition of some tincture of opium and ipecacuan wine, or this—

No. 210. Of Distilled water . . . . 1 ounce.
Mucilage of gum arabic . ½ oz.
Ipecacuan wine . . . . 2 drachms.
Syrup of white poppies . 1 drachm.

Mix.—A teaspoonful every second or third hour, or according to the cough.

A very gentle aperient may be given, if the bowels are confined—if not, we had better give neither purgatives nor aperients. Everything heating should be avoided, and stimulants must especially be avoided. They are often erroneously given, "to strike out the eruption, and drive it from the heart," as it is said.

The body, if there is much heat before the eruption, may be sponged with warm vinegar and water; and this process may be repeated, at the period when the skin begins to scale off, which scaling off usually causes much itching.

We must jealously watch the breathing, for any symptoms of inflammation of the chest, or in the head. Then the treatment recommended for those diseases must be immediately begun, and carried out. The chief, if not sole danger in this disease, arises from inflammation attacking the chest—for the tendency in measles is to inflammation. We must closely watch the breathing, as shown by the nostrils in infants, and by the quick respiration in children. There is a difficulty of breathing arising from irritation, which will pass away, as well as a difficulty of breathing from inflammation—but the former is not always the same, and there will be an alternation of relief with great oppression, and the erect position does not relieve, and rest and sleep are often obtained—not so in inflammation.

Here no time is to be lost—and blood should be taken, some say by the arm—three ounces of blood are to be taken from the arm in a child of twelve months; four in one of two years; and five in one of three. But the author has always trusted to leeches, and encouraging the oozing of the leech bites, and to the following powders:—

No. 211. Of Calomel . . . . . 20 grains.
Tartar emetic . . . . ½ grain.
Powdered gum arabic . 20 grains.

Rub well and divide into twelve powders. Give one every second or third hour, till the chest symptoms seem relieved and the breathing easy—then discontinue the powders.

Saline medicines may be given—and drinks.

The skin in infants and young children is so very delicate, that blisters should not be applied; for they sometimes give rise to nasty sores afterwards; but this liniment may be rubbed in:—

No. 212. Of Camphor liniment, or,
Ammonia liniment . 2 ounces.
Spirits of turpentine . 1 drachm. Mix.

Sop a fold or two of linen or lint in this fluid, which must have been made warm, by setting the bottle in hot water; and put it on the chest, of the size and shape necessary. In twenty minutes, a sufficient redness and effect will be produced.

Sometimes, when a child has been exposed to the contagion, and has had the usual precursor catarrhal symptoms, the eruption does not appear at the proper time—but a state of sleep, or rather coma, comes on—then the warm bath, with a tablespoonful of mustard flour thrown in, has caused the eruption to appear, and the coma to vanish.

A dose of calomel has done the same thing.

In one case, the breathing was intensely difficult, the face livid red, the lips dark red—and the author ordered an emetic to the immediate relief of all the symptoms, and ultimate recovery.

If little dark spots appear, like flea-bites, and there seems to exist a state of debility, then wine and this mixture:—

No. 213. Of Mint water . . . . . 1½ oz.
Sal volatile . . . . . 30 drops.
Spirits of sweet nitre . . 60 drops.
Syrup . . . . . ½ oz. Mix.

A teaspoonful every second or third hour.

A looseness of the bowels may come on—this must be checked, and finally stopped in the way mentioned in Diarrhœa

Scaly ulcerations behind the ears, may be a consequence the measles, in some scrofulous constitutions. Here gentle aperients—spermaceti ointment—and carbonate of iron

with infusion of gentian; and if much debility exist, sal volatile may be added.

During convalescence, the skin must be protected from the cold, by flannel.

Some cases of measles have occurred, where there have been no signs of catarrh, and others where the rash has been of a dark colour—this latter has been called the black measles.

If the inflammatory symptoms have been effectually removed, and the bowels kept free, there will be little chance of suffering from the "dregs of the measles."

Vaccination, or Cow-pox.

The history of this extraordinary discovery, need not here be detailed. The mode in which vaccination is performed, is this—after selecting a healthy child, who has the pock in its proper stage, we dip the point of a blunt lancet into one of the cells of the pock, and then gently insinuate the point into the arm of the child to be vaccinated; choosing a spot; a little below the shoulder, where the dress or anything else, is least likely to rub or interfere. Here make two or three scratches—a drop of blood may make its appearance, but it is better if it do not—the vaccine fluid is thus introduced under the outer skin of the child by letting the lancet be wiped quite clean by the skin. If we use the dried fluid from points or glasses, we wet either for a moment, with a drop or two of cold water—scrape off the vaccine matter with the lancet's point, and use it as stated.

Crusts of vaccine pocks are sometimes used—they must be wetted or dissolved partly, in a drop or two of water.

About the third or fourth day, a small hard spot ought to be felt under the skin, like a pin's head—this forms a red pimple, hard to the touch, and slightly raised above the skin. A vesicle becomes apparent to the eye about the fifth or sixth day, and the pimple enlarges. It is now circular in form, with its centre depressed and edges raised—and it is sometimes indented by one or two concentric furrows, resembling, Mr. Bryce says, a worm coiled under the skin. The depressed centre is characteristic.

It increases gradually until the tenth or eleventh day, *to the diameter of* about four lines. The size varies—for

if two or three punctures have been made near each other, two or three vesicles form, which coalesce, and run into each other. The colour of the vesicle is at first a light pink—which changes to a pearl colour. The centre is darker than the margin, which is swollen and shining. The vesicle consists of a number of little cells, filled with a clear lymph—and these cells communicate with each other.

On the eighth or ninth day, an inflamed ring forms round the base; and which on the tenth, is from one to two inches in diameter. This areola is red, hard, and swollen. The redness continues for a day or two, then begins to fade—generally from the centre to the circumference, sometimes forming two or three concentric rings.

After the tenth day, the vesicle declines, the centre becoming brown—and then a hard, smooth crust, of a dark mahogany colour, forms, having a concave surface.

About the twentieth day the crust falls off, leaving a permanent circular scar, a little depressed, and marked with small pits, as numerous as the cells were of the vesicle.

The general symptoms are very slight—restlessness, shivering, thirst, headache, peevishness, drowsiness—but they are of no consequence.

Some make several punctures, in order to secure the effect—the author relies on two only—one in each arm; but he is very particular as to his selection of the virus, and in his examination of the child to be vaccinated—for he makes it a rule to postpone the vaccination, if a tooth be coming out, or if there is any eruption on the body, or a diarrhœa, or evidence of any irritation in the body, anywhere—for if there be, he believes the patient will not be secure from small-pox. The most favourable time for vaccinating is between six weeks and two months; the late Dr. G. Gregory recommends the fourth month, but always before teething begins. This period is prior to the period of teething, and subsequent to the extreme irritability of first infancy; but we may vaccinate without risk, immediately after birth, if small-pox be near at hand.

And with respect to the state of the pustule, that is to the day when we may take lymph from it, it is now generally agreed that we should open the vesicle on the eighth day, or even a day or two later, provided the margin or areola previously described, has not appeared.

We may preserve this lymph by receiving it on a small

square of glass, which we allow to dry—then covering it with another similar square of glass, fold both up in a piece of moistened bladder or goldbeater's skin. For more immediate use, the lymph may be taken upon thin pointed blades of quill or ivory; these should be charged with lymph two or three times, being allowed to dry between each charging, and then inclosed into a packet with goldbeater's skin.

Another way of vaccinating, is by the cowpock crust, which is perhaps more certain than either the glasses or points; this crust is probably the actual lymph in a concentrated state—the crust must be kept dry in a well-stopped phial. The surest way of vaccinating is by having the two children in presence, and doing it at once; if not, the lymph may be carried on the lancet's point for a few hours—three or four, but not longer. The crust is the next best.

Great anxiety is naturally felt as to the protection afforded from small-pox, and as to whether the constitution has been sufficiently affected by the lymph; and Mr. Bryce has discovered a test, which was at one time almost constantly put in practice. He found that "if during the regular progress of cow-pox, a second inoculation or vaccination be performed about the end of the fifth, or beginning of the sixth day after the first operation, (that is, between thirty-six and forty-eight hours before the areola or margin of the first begins to appear); the affection produced by this second inoculation will be accelerated in its progress so as to arrive at maturity, and again fade at nearly the same time as the affection arising from the first inoculation—and that this will take place although the constitutional affection be so slight, as to otherwise pass notice." So that we must take some lymph on the fifth day after a vaccination, in which all is going on in the regular course, and insert this lymph into the opposite arm in one or two places, and we shall see that this second operation will be followed by a minute vesicle on the third or fourth day—that is, on the eighth or ninth from the date of the first—which vesicle will be immediately afterwards surrounded by an areola, and will become on the fifth day of its own existence, an exact miniature of the first on its tenth day: both will have finished their course at the same period; that being usually the thirteenth day from *the first inoculation*, and eight from the second. Dr.

Maunsell, from whom this description is taken, says—"the rationale of the acceleration, which thus takes place in the second vesicle, may be explained in a few words; the phenomena (circumstances) of the ordinary cow-pox before the eighth day, or in other words, until the appearance of the areola, (inflamed margin) are strictly local; when this appears, we may look upon it as a visible sign of the specific fever, (or perhaps we should rather say, action) being in operation in the system; and as a consequence of this general action, we find that a specific areola appears around any local vesicle of the same disease, that may at the same time actually exist upon the surface of the body; although that vesicle may not be in existence sufficiently long, according to the known laws of the disease, to be itself the cause of this phenomenon. The latest period at which we can expect this test to succeed, is from thirty-six to forty-eight hours before the appearance of the first areola; as it is necessary that the secondary affection may have proceeded some length, and that a small vesicle containing virus (lymph) may have been formed by it; before the constitutional action from the first inoculation begins; otherwise no areola, but merely a slight degree of hardness, will take place from the second puncture. We defer it to the latest period, in order to afford the strongest possible contrast between the progress of the two inoculations.

This test-plan should always be tried—though we must not assume that all is wrong if it fail, since from unskilfulness in the operator, or from some accidental friction, which no one will own, the second vaccination may not take effect at all.

But neither first nor second vaccination may take effect from some peculiarity of constitution, rendering the child insensible to the action of the lymph—then after a second unsuccessful trial we must leave the child to its chance for six or seven years, when some change may have taken place, and the vaccination then become successful.

Dr. Sonderland of Bremen, more than twenty years ago, proved the identity between the contagion of the cow-pox, and that of human small-pox; and that cow-pox in the cow is simply small-pox in man, and may be produced in that animal at will by the variolous contagion. This would explain the protective power of cow-pox. They are merely modifications of one another. All previous uncertainty with respect to the ceasing of the protective

power, and to the degeneration in quality of vaccine matter must now cease. Dr. Sonderland says—no disease in the gaseous form can thus be communicated to the lower animals with advantage, perhaps a protective measure may thus be discovered ultimately against other diseases, as scarlet fever, measles, yellow fever, and plague; each specific poison being modified by passing through the system of an animal."

If this be true, a great desideratum in this disorder would be gained.

Dr. G. Gregory recommends re-vaccination at the interval of one, two, or three years, if Bryce's test have failed; or the cow-pock itself has not been satisfactory; he recommends five places to be inoculated, and says the lymph of a fifth day vesicle never fails.

Until the eighth day, the constitution does not seem to sympathize—nor then even, in most cases—there may be restlessness—disordered bowels—heat of skin—and disturbed night's rest—but medicines are seldom necessary.

The irregularities or anomalies of cow-pox are numerous. In some cases, a red, itching vesicle is formed—is rubbed—and a small needle-shaped or conical-shaped pustule is formed—the areola is irregular, and the lymph is not transparent. The surrounding scab is small and drops off prematurely, instead of dropping off between the eighteenth and twenty-first day.

A perfect vaccine scar should be small, circular, and marked with radiations and indentations—but many scars disappear as life advances. But if all has gone on right to the eighth day—the virus has taken full effect—and all that happens afterwards is immaterial, in respect to the security of the child. So the scar left is not to be depended upon, as evidence of security. The scab leaves an ulcer sometimes; when the pock has not been of the true kind.

With respect to the vexed question of the failures to protect, in the vaccine lymph—it is now agreed, that whether from idiosyncrasy (peculiarity) of constitution, or some other cause, small-pox has repeatedly occurred after vaccination—but still the benefit derived in the vast majority of cases, is incontestable; nor has the author encountered one fatal case of small-pox after cow-pox—though he has heard and read of some—yet he has had under his care several instances of confluent small-pox after vaccination—*where the symptoms* were violent and threatening

in the earlier period—but he has found the usually dangerous secondary fever, either omitted altogether, or else rendered very mild—nor has he ever seen any one scarred after the attack—and his confirmed opinion is, that it is next to an act of madness to reject the almost certainty of benefit and protection to be derived from vaccination, on account of a few isolated cases of failure.

Still he is not averse to the practice of re-vaccination, about the ages of seven, fourteen, and twenty-one; if it were considered desirable by any persons, who may have misgivings about their being sufficiently protected from small-pox.

When the first instances of small-pox after cow-pox were published, a reaction arose in favour of the old practice of inoculation with small-pox virus—but the writer trusts there are few to be now met with, who would prefer this latter to vaccination. And to those few, he would suggest that the inoculated small-pox at times proves both severe and fatal—whereas, this can never be alleged against vaccination; and he would also suggest, that by inoculating with the small-pox virus, danger is incurred, not only by the person inoculated, but by all who may live near or come in contact with, the patient—while the dangerous disease is propagated, and so might become fatal to many.

Tinea Capitis—Ringworm.

This is an inflammation of the hair follicles, which produces a peculiar yellowish substance, surrounding the cylinder of the hair, and is seen through the outer skin as a minute circular spot, not raised above the level of the skin. This yellow substance escapes from the follicles of the hair upon the surface of the outer or scarf skin, and dries into yellow friable crusts, forming a distinct cup with an inverted border, around the base of each hair. When many of these cups join together, they resemble the cells of a honeycomb—hence the term favus.

The first intimation of the coming mischief is, in the appearance of the hair on the diseased spot—it becomes thin, discoloured, twisted, and is at last thrown off—in consequence of the disease extending to the deep-seated structure. The spot is left bald—and the disease has probably involved all the textures down to the bone.

The scalp is the chosen site—but the disorder may ex-

tend to the face, neck, and body. It is highly contagious, and easily communicable by contact.

Children are usually the subjects of this disease—and such children are often of an inferior degree or of stunted intellect. If the irritation continue long—the glands in the neck swell—a weakly and unhealthy system, and a scrofulous taint predisposes—and the disease, if uncured, may last for years; and cause serious damage.

Contagion is the exciting cause—and towels, combs, brushes, hats or caps, afford a ready means of propagation, especially in large schools—where the greatest difficulty is found to eradicate it.

The yellow substance in the crusts, it is said, has been proved to be an organic structure of simple growth; and resembles those inferior members of the vegetable world, denominated mould. The name of mycoderm has been given to this parasite—and its organization is supposed to be vegetable; because this mycodermis consists of a number of cells, capable of extending themselves by the ordinary process of multiplication. But the truth is, that the vesicular organization is common to animals as well as to vegetables—being the only form that manifests itself at an early period of development in either kingdom. And Professor Carpenter deems it an arbitrary assumption, to speak of this disorder, as produced by the growth of a vegetable within an animal body. The parasitic growth has roots and branches—smooth, cylindrical and transparent little tubes—its roots are attached to the yellow capsule, its stem and branches extend inwards towards the centre of the capsule, and constitute the whitish-grey and porous contents of the crust. The diameter of the branches is $\frac{1}{1000}$ to $\frac{1}{250}$ of a millimetre—that of the molecules within the tubuli $\frac{1}{10000}$ to $\frac{1}{1000}$, and that of the seeds $\frac{1}{250}$ to $\frac{1}{100}$. Although the mycoderm may not be of vegetable origin—it is a structure of a low type.

Other diseases may be mistaken for this; but we must look to the cup-shaped crusts of a bright yellow colour, and dispersed; but the most characteristic appearance, and one which distinguishes it from all other diseases of the scalp, is, the discoloured, dry, and twisted appearance of all the hairs, arising from the diseased follicles. On examination, these hairs will be found quite loose, if gently drawn by the forceps.

Treatment.—We must do our utmost to cure and prevent

this disease—and the first and chief point to look to, is to see that in schools, or anywhere else, a perfect insulation be maintained of the affected child; and care taken that towels, caps, &c., shall be used solely by the patient. Some public schools have been infested for years with this complaint, which has at last been rooted out, solely by great watchfulness and organization.

The general remedies are those adapted to elicit high tone and vigour, and they need not be detailed.

The local applications have been numerous, in proportion to the continual failures; but Dr. Wigan, of Brighton, in 1833 proposed a remedy, which he says has never failed in curing, if rightly applied; and which also has the additional advantage of acting as a detector of this disease in its early stage, when it is most important to treat it—since we have already said, that when this disease has existed long, the whole of the scalp, down to the very skull itself, becomes affected; and the disease incurable.

The author has verified the statements of Dr. Wigan; and has watched with much interest the progress, amendment, and cure of many a case of ringworm in a very large public school; and he has also seen the application, used as a detector with great success. It appears that Dr. Wigan had been, like many of his compeers, baffled in his treatment of this obstinate disorder for many years, until at last he made the discovery of a cure. He having successfully tried the remedy, printed many circulars, and distributed them freely about, sending them to almost every one of the hospital surgeons in London; and the author saw one of them in the hands of one who had lived with Mr. Headington, of the London Hospital, at the time.

When we reflect on the hitherto intractable nature of this contagious and tedious disease, and on the farrago of remedies, which has been boasted of by different practitioners; we shall be delighted to try the following mode of curing this affection.

The disease should first be identified with a powerful lens, as many mistakes have been made. Scaly Tetter (psoriasis) and several other disorders of the scalp may be mistaken for ringworm; but the mode of distinguishing the ringworm from all other eruptions of the scalp has been related.

If then we find, there is any concomitant disorder with

the ringworm—it must first be removed—then the head must be shaved—excepting a few locks of hair in front, if desired. If any razor-cut have been inflicted, it must be healed before we go further—then apply, by means of a short, soft shaving brush, all over the head, Beaufoy's strong pyroligneous acid, diluted with one third its volume of distilled water. The author saw it used undiluted; but the application is rather a sharp one. Keep the head wet with it for two minutes; when slight and transient pain will be felt at the diseased spots, which are immediately rendered visible; though they could not previously be distinguished. These spots become of a very bright red—while the healthy scalp is not at all affected—unless in particular instances, where the skin is fine and delicate; for in such habits, the stimulus of the acid causes universal reddening—then the acid should be tried again in a more diluted state.

Every spot is thus detected, and the extent of the disease ascertained.

A second and a third application, with intervals of three or four days, will complete the cure—but we must soak the parts with the acid for fifteen minutes—or else gently rub it in. Once doing so, is sometimes sufficient. A thick scab is generally the result of this process—and this scab should not hastily be removed. In seven or ten days, the scab rises from the scalp, supported by the new hair—then introduce a fine pair of scissors under it, and cut it off—when the skin at bottom will be found clean and healthy. Examine by the lens—and if there are any yellowish spots, or any suspicious appearances, repeat the application of the acid. We should likewise examine the state of the hair around the patch, and indeed all over the head—if any are loose or altered in appearance, the disease is there. When the hair is very thin on any point, we must apply the detector acid.

These applications of acid should be done by a medical man—but if there be no one at hand, any tolerably clever person may apply them; by attending to the foregoing directions.

Ringworm on any other part of the body than the head, never requires more than one application for its cure. The most embarrassing cases, are those which have been under professional care; and where many irritating ointments, &c., *had been* prescribed. Here the irritation must first

be subdued before we try the acid—poultices hot or cold, gentle aperients—waiting a few days.

If on the first examination (after the test of the acid) there be found only a single spot of slight extent—to prevent contagion, touch the spot with kali purum—so slightly as to give no pain. This is effectual—a slight scar is formed, and when the slough separates, the hair will not grow again for some time—but there is no fear of its being re-established in a few months—and in the meantime all apprehension is at an end.

Dr. Wigan's detector-acid is the concentrated pyroligneous acid of Beaufoy, diluted with three times its weight of water. On its application, a number of spots, which looked perfectly healthy, become red patches. They are indications that infection had been taken—but had not gone through its stages, which period, he (Dr. W.) believes to be, after great experience, eight days.

Having thus ascertained the numbers and position of your enemy, says Dr. W., in the *London Medical Gazette* of Sept. 15, 1843, your course is clear. One vigorous assault, and there is an end of the matter. With a piece of fine sponge, either tied to the end of a stick, or held in a pair of silver sugar-tongs, each spot is to be thoroughly embued with the concentrated acid, for the space of three or four minutes—and the business is finished.

The only reason for seeing the patient again, is that a crust forms, and an appearance of worsening takes place. This crust is pushed up with the hair, which soon sprouts again if the eruption be recent—and as soon as a fine pair of scissors can be inserted underneath, it should be removed—but not prematurely, lest a sore place be formed. More than one application of the acid is seldom necessary; when the above stated preliminaries have been properly gone through, on the shaved and tested head.

The acid must not be continued too long, or the disease of the Doctor will be produced—namely, an inflammation and eruption caused by the remedies applied. Then discontinue all applications.

For general treatment, nutritious, non-stimulant diet, with perhaps a grain of calomel at night once a week or so, with a gentle aperient next morning, will be all that is necessary.

The infant may labour at birth under certain morbid

conditions; or it may suffer from accidents, or from diseases, peculiar to this period of their lives, or modified by the circumstances peculiar to that period. The young mother should know something about them—although many of them, can only be remedied by the surgeon and accoucheur. We, therefore, proceed to describe some of those states.

Still-born Children.

Here, the child may be born with no indication of life, except perhaps the pulsation in the navel cord, or a feeble action of the heart—or there may be ineffectual efforts at breathing, or the child may even cry faintly, yet strength may be wanting to establish the breathing.

Much may be done to restore the life, so nearly lost—for we know that the heat of the new-born child is about three degrees less, than that of the adult; hence it can exist longer without respiration—wherefore nothing short of the most positive indications that the infant is dead, should prevent us from persevering in our efforts to restore life; and these efforts should be continued as long as the slightest attempt at motion of the respiratory organs is evinced, or the slightest pulsation of the heart continues.

We observe the still-born infant under two conditions—one in which it is evidently feeble, mouth open and flaccid, limbs relaxed, and cord beating feebly or pulseless—or the other, in which the child is of full, large plethoric habit, the face swollen and purple, the cord tense and beating strongly; as if there existed a state of apoplexy.

Our treatment must vary according to these two states. Our first object is, to remove all impediments to the passage of the air into the lungs. We place the child with mouth uncovered, and pass our finger into the back part of the mouth; so as to clear the passages, and excite the respiratory efforts.

The chest should be gently rubbed or slapped, and exposed to the cold air; then the chest and soles of the feet must be rubbed with spirits; and the nostrils irritated with a feather, dipped in the spirits, or by holding the carbonate of ammonia (smelling salts) to the nose. The cord should not be tied and cut, unless respiration be established. If the child be of full habit, and of swollen purple face, the circulation should be relieved by cutting *the cord,* and allowing it to bleed. Two other means of

resuscitation are put into requisition—inflation of the lungs, and the warm bath.

The inflation should be done very gently indeed, and the air should not be cold. Dr. Maunsell recommends that the operator should inflate with his own lips, and then gently press the chest, and repeat—so as to imitate the process of breathing.

As to the warm bath, respiration may be set going, and a cry uttered immediately upon plunging the child into a bath of 100 degrees of temperature. If motion be produced, withdraw the child, and rub with dry, warm flannel. By keeping the child in the bath, the air is excluded, and the temperature so raised, as to render it less capable of bearing the deprivation of air.

Should the child continue to breathe feebly, and show an inability to suck, after animation has been restored; we must excite by friction on the surface—we may stimulate the bowels by some castor oil; and if there be much rattle in the breathing, one gentle emetic may do good service.

Deformities

Sometimes exist—but these must be left to the surgeon; and some of the natural apertures may be closed, leading to a retention of the contents of the bowels or bladder.

Some children are born with a round, compressible tumour on the lower part of the spine, varying in size from that of a nut to that of the closed fist. All the mother can do, is to protect the swelling from pressure.

Tongue-tied.

Here, the bridle to the tongue extends too near or to the tip of the tongue—and the child cannot suck.

If the tip can be protruded beyond the lips, there is no tongue-tie. Where the tongue is tied, the bridle requires to be cut sufficiently; but this seemingly trifling operation has been followed by serious events.

Hare Lip.

If this do not impede suckling or threaten life, it should not be operated on, in early infancy.

Deformed feet, supernumerary toes or fingers, are met with. Operations should be postponed.

Mother's marks come under the surgeon's attention.

Ruptures, also—and they are only mentioned to give notice, that such may exist.

Injuries are often received during birth. Great blue or blackish swellings may be visible; but they should not be meddled with—never opened; but some of the discutient spirit washes applied, which are prescribed elsewhere.

The bones of the limbs are sometimes broken during birth, but the same treatment applies as that of fractures in general.

Palsy of the limbs may be induced by the use of the blunt hook, during delivery—here nothing can be done.

The Blue Disease—Cyanosis.

The right and left cavities should after birth, have no communication with each other, except through the lungs; and a hole, which used to be open before birth, and which is a communication between the right and left cavities, ought to close after birth. In some cases it does not; and then the child's lips, cheeks, and nails, are of a blue, purple, or leaden colour—the skin is colder than it should be—and fits of difficult breathing come on, causing the blueness to deepen in colour, the pulse to stop, and the feet to become cold.

The child may recover frequently from these fits, but usually dies in one of them. The fits are caused by anything, which hurries the breathing or pulse.

This disease may depend on the hole above alluded to being open; thus allowing the blue venous blood to mix with the bright arterial red blood. Still, cases of blueness have existed where there has been no open hole, and there has been no blueness, where the hole has remained open. There must then be some other cause or causes—causes which produce imperfect filling of the lungs.

As to treatment, nothing can be done where the hole is still open, and the subjects live a longer or shorter time; then die. Morgagni tells us of a girl who lived to her sixteenth year, with a hole open, large enough to admit the passage of the little finger through it.

As to the other causes, we must do as recommended for

still-born children—and during the fits, expose freely to cold air, sprinkle cold water on the face, &c.

Nine-day Fits. (Trismus Nascentium.)

In the West Indies and some tropical climates, this is a very fatal disease.

Within about nine days after birth—about the time that the navel cord falls off—fits occur—called by nurses "black fits and white fits." The first often kills, in from eight to thirty hours—the second may continue three, five to nine days. There are sometimes warning symptoms—starting during sleep—a livid circle about the lips—puckering of the mouth—peculiar screeching—a smile during sleep. The stools may be regular and natural, or greenish, slimy, knotted.

When the fit comes on, there are violent, irregular actions of the muscles of the limbs and face, recurring at uncertain intervals. In the black fits, the spasms are more violent; there is foaming at the mouth—thumbs turned into palms of the hands—the jaws closed, and any attempt to open them adds to the spasms—the face and body swollen, and of a dark copper colour—during the intervals the muscles are stiff.

In the white fits there is less violence; the face is pale, and the body becomes quickly emaciated. Both are equally fatal. Such is Dr. Maunsell's excellent description.

Treatment.—Here nothing satisfactory has been established—since the cause has not been agreed upon—some referring to the state of the navel, others to other causes. We however have reason to think, that free ventilation and perfect cleanliness act efficiently as preventives. Dr. Brien, in the *Dublin Medical Journal*, gives us some hope from administering the eighth of a drop of laudanum every second hour, until the effects of opium are produced—drowsiness—cessation of the spasms—and a grain and a half of calomel every fifth or sixth hour up to the third time, with intermediately a large sized teaspoonful of castor oil, sometimes joined with a third part of spirits of turpentine. The warm bath has done no good.

Erysipelas of Infants.

This disease generally appears about the navel, but sometimes on the limbs and joints, as the ancle and wrist.

Considerable danger attends on this affection, for it quickly runs into gangrene or the formation of matter. The concomitant fever is almost always typhoid. A dark red, shining spot first appears, which assumes a purple colour, without much swelling: the skin is hard—bladders are formed on the belly—and gangrene follows, which sweeps away great part of the skin, and extends low down, destroying the parts in its course. Offensive, slimy stools, with great restlessness, and at last, coma.

It may attack immediately after birth.

The issue is very doubtful, and would be altogether hopeless, were we not acquainted with the strong hold on life possessed by an infant; and with the wonderful efforts at reparation of injury of which it is capable.

Treatment.—To change the air should be almost the first step; then the milk must be looked to—if the mother secretes enough or not—or whether the milk is good—the mother healthy. If not, a wet nurse must be procured. If the child cannot suck, give a teaspoonful of white wine whey every hour or half hour. A gentle aperient must be given, and after this has operated, a quarter or a third of a grain of quinine every three or four hours, with as much aromatic powder. Ammonia is recommended by some.

Dust the part with starch powder or common flour, and if matter is forming or gangrene threatened, foment or poultice with light bran, chamomile flowers, or the fermenting poultice.

Abscesses

Sometimes form in the armpits, neck, or lower part of the leg in infants. A tumour forms—not painful—which becomes red, and a soft spot is observable. On letting the matter out, the abscess soon gets well; and little or no general treatment is requisite.

Induration of the Cellular Tissue.

This disease attacks prematurely born or feeble children, in whom the breathing has not been fully established; and commences usually in the feet, which become swollen, dry, hard, and cold. The skin may be of the natural colour; *or it may be* livid or purple. The skin appears as if

tightly stretched over the parts, it is cold and hard, and pits but slightly on pressure. The disorder invades the body, the temperature of which is remarkably diminished. There is no attending fever. The child is restless—will not suck, and whines in a way, which Dorfmüller compares to the crying of mice. The breathing becomes more and more difficult, until death supervenes, usually within the fourth day, but sometimes so late as the second or third week. We should give but little hope of recovery.

Treatment.—Congestion and accumulation of black blood in the large veins, and large internal organs, explain the coldness of the surface, and the effusion into the cellular membrane.

Friction, with warm flannel, and an emetic of ipecacuan to clear the air passages, should be ordered; then stimulants, such as warm white wine whey, ammonia, &c.

Jaundice of Infants—Yellow Gum.

Yellowness of the skin and whites of the eyes is very common with infants two or three days old; and this may depend on the active secretion of the bile, and on more being formed than is necessary. This will disappear without any medical treatment; but when it does not go off in three or four days, we should give a teaspoonful of castor oil, and one grain of grey powder with two or three of rhubarb.

Purulent Ophthalmia of Infants.

This disorder not unfrequently causes loss of sight; and often gives considerable anxiety to the medical man, until he is able to obtain a sight of the cornea, (the central part of the eye) for the cornea may become opaque, or it may be destroyed by what is called sloughing, (gangrene). The disease sets in, on the second or third day after birth, and the white of the eye becomes red, the eyelids swell, and matter rapidly forms; but very commonly the first we see of the disease is as two prominent bags of eyelids, which we cannot separate—or if we can, severe pain is felt. Thus we cannot see the cornea, which moreover, always turns upwards out of sight, when the eyelids are opened.

Light gives pain.

The causes may be, cold; or it may be that the eyes have

been irritated during birth by certain acrid secretions, or discharges in the passage of the mother.

Treatment.—Some apply a leech or two, but we had better avoid doing so, unless the inflammation is violent and the child strong.

We should at once resort to astringents: 6 grains of alum to an ounce of rosewater; or 3 grains of sulphate of zinc to an ounce of rose water. Some highly praise dropping into the eye, three or four times a day, of a solution of nitrate of silver (lunar caustic,) consisting of ten grains to the ounce of distilled water.

Every hour we should drop from a sponge, or throw in from a small glass syringe, some lukewarm water, or chamomile tea,—and without doing this, all else may be ineffectual.

When the inflammation is severe, a cold poultice of bread and water, applied in a muslin bag, between the washing, &c., will help materially.

Gentle aperients now and then.

If specks remain on the cornea, they are often absorbed in course of time.

Red Gum. (Strophulus.)

Three or four days after birth, a few red pimples appear upon the face, neck and hands, and there are diffused red patches interspersed. The redness varies in depth of colour. No treatment is requisite,—and some nurses like to see the red-gum; it merely indicates a healthy state, and sensibility of the mucous membrane and of the integuments.

The red-gum sometimes attends dentition.

Swelling of the Breasts of Infants,

Is frequently to be met with, and need not be mentioned here—since no treatment is requisite, either local or general; were it not for the practice of nurses to set to, and squeeze out all the milk, as they say. This they do, until they have caused inflammation to be excited, which is often followed by an abcess, that is, the formation of matter.

The mother should not allow the child's breasts to

be meddled with, in any way,—the swelling will speedily subside.

The temporary teeth, or first set, consist of

4 Incisors in each jaw	8
2 Canine teeth	4
4 Molar teeth	8
	20

In the second, or permanent set, there are, in addition,

4 Molar, or grinders in each jaw .	8
2 Wisdom teeth in each jaw . . .	4
In all	32

SECTION VII.

POISONS, ACCIDENTS, FORMULARY, AND SPECIAL ADVICE TO EMIGRANTS.

POISONOUS substances, it is well known, are often used as remedies, and with great success,—the quantity constitutes the chief difference in many cases.

POISONING BY STRONG ACIDS.

These acids are the sulphuric acid, or oil of vitriol, spirits of vitriol; the nitric acid, or aquafortis; the hydrochloric acid, or muriatic acid, or spirits of salt, or muriatic acid.

Symptoms or Effects.—A sharp, sour, burning taste in the mouth, and a burning in the gullet and throat, and stomach; bitter stuff is vomited with some blood; at times vomiting—frequent stools, and blood passes with them—pain in the bowels, like colic,—great thirst,—tenderness of the belly,—cold clammy sweats,—attempts to make water frequent and painful,—breathing difficult,—restlessness,—pale-face,—convulsions and cramps,—mind remains unaffected. Death may ensue in a few hours, or in several days.

Treatment.—Antidotes must be administered instantaneously if possible,—much, if not all, depends on time. Mix an ounce of magnesia in a pint of water, and give a wineglassful instantly, and repeat every three or four minutes. If no magnesia is at hand, put half an ounce of soap into, and dissolve it, in a pint of water; administer clysters of the same. Do not use the stomach pump, on account of the inflamed throat, but give water, milk and water, barley-water, whey, gum arabic mucilage very much diluted, or linseed tea. Then the inflammatory state is to be subdued by warm bath—fomentations—leeches; no food so long as pain and inflammation in stomach continues—then food cautiously.

Oxalic Acid, or Acid of Sugar.

Symptoms not unlike those from the preceding acids.

Treatment.—Give chalk and water,—magnesia,—or break down some mortar from the wall, and mix it into a paste with water. Then, encourage vomiting, by tickling the throat and gullet; or give an emetic,—a teaspoonful of flour of mustard in water, or two tablespoonfuls of common salt in water; but beware of giving much fluid until the acid has been neutralized by chalk, &c., which converts it into an insoluble matter, and prevents it from getting into the blood.

Poisoning by Strong Alkalies.

Fused potash; hydrate of potash, or commonly caustic potash; carbonate of potash, or salt of tartar; oxide of sodium, or caustic soda; carbonate of soda, or kelp, or barilla, or washing soda; oxide of calcium, or lime, quicklime; hydrate of lime, or slaked lime; solution of lime, or lime-water.

Symptoms.—A peculiar urinous taste in the mouth, acrid and burning difficulty of swallowing,—vomiting of matter mixed with blood,—the blood which is thrown up turns vegetable blue colours green. Then come on sharp pains at pit of stomach, and in the belly,—symptoms of inflammation in the bowels—hiccup—clammy sweats,—purging of dark, bloody matter; the mind wanders,—exhaustion, and death follow.

Treatment.—Put three tablespoonfuls of vinegar or lemon juice into three or four ounces of water; and repeat the draught; or we may give freely of olive oil, or almond oil,—which would convert the alkalies into a soap;—or the sulphuric or muriatic acid might be given,—drop enough of either acid into a wineglassful of water till it is as sour as weak vinegar.

Then barley-water—mucilages—gruel—milk—whey—linseed tea—jellies; then treat for inflammation by leeches, fomentations, &c., if necessary.

Poisoning by Ammonia.

Solution of ammonia, or volatile alkali; sesquicarbonate of ammonia, or smelling salts, hartshorn, volatile salts;

hydrochlorate of ammonia, or sal ammoniac, baker's salt, muriate of ammonia.

Symptoms, similar to those caused by potash, only more suffocating,—convulsions and cramps are more frequent. When taken in small quantities, bleeding from the nose, mouth, or bowels may occur,—the teeth drop out, and a feverlike hectic may prove fatal.

When the vapour of ammonia is breathed too long, inflammation may ensue in the mouth, throat, and gullet, producing difficulty of swallowing, local pain, &c.

Treatment.—When swallowed, give vinegar, or lemon-juice, citric, or tartaric acid in water; and give the remedy as soon as possible, for death has followed in six minutes. When the vapour has been inhaled, the fumes of hot vinegar must be inhaled. For any consecutive inflammation, the usual remedies must be adopted. (*See* the Fourth Section.)

Poisoning by Antimony.

Tartar emetic,—James's powder,—butter or muriate of antimony,—Kermes mineral,—glass of antimony.

Symptoms. — Metallic taste in mouth, from some of these—vomitings severe,—hiccough and heartburn,—pain in the stomach, with griping, purging and fainting,—skin hot, sometimes deadly cold—cramps—convulsions—giddiness—difficulty of breathing.

Treatment.—The decoction, tincture or tepid infusion of galls are the antidotes; a wineglassful of the first and last, or a dessertspoonful of this tincture in water—dilute freely,—then empty the stomach by the stomach-pump,—and any one can introduce the tube of this pump, by passing it gently down the back of the mouth, gullet, and throat. After this, give decoction of yellow Peruvian bark—check excessive vomiting with one grain of extract of opium in eau sucrée—leeches, fomentations, &c., to pit of the stomach.

Iodine Poison.

Symptoms.—Similar to the foregoing—but the vomiting is not so excessive—the pain at pit of the stomach is severe.

Treatment.—Give mucilage of starch, arrowroot, or

wheat flour in considerable quantity, until we may suppose the stomach nearly full—then give an emetic of ipecacuan; and combat the inflammatory symptoms by the usual means.

Arsenic as a Poison.

White arsenic, oxide of arsenic, fly powder—Macquer's salt of arsenic, or arseniate of potash—orpiment, or king's yellow—Fowler's solution, or tasteless ague drop—arsenical paste.

Symptoms.—First, nausea and faintness come on—then burning or hot pain in the stomach—vomiting of greenish yellow matter, mixed with blood after much retching, and increased by anything taken into the stomach—swallowing difficult and painful—voice hoarse—griping pains, with purging of green, watery-looking matter—bearing-down stools—belly drum-like and painful—skin cold and clammy—convulsions, palsy, and delirium.

If the arsenic has been swallowed in lumps, death often ensues in six hours or thereabouts, with prostration, faintness, stupor, and convulsions; and the vomiting and pain in the stomach are not severe.

In some cases the patient may live five or six days—or even recover—though this last event rarely happens—palsy or epilepsy, and locked jaw, with violent madness, sometimes occur.

Treatment.—The stomach must be immediately emptied by the stomach-pump, and we must use lime water instead of distilled water; we must give drinks of tepid mucilages of sugar and water, chalk and water, and lime water; but we must avoid giving alkalies. The best antidotes are charcoal, and the hydrated sesquioxide or tritoxide of iron.

The arsenic causes inflammation of the stomach—which must be treated in the usual way—and a diet consisting wholly of farinaceous food must be adhered to, till all pain and uneasiness are gone.

Poisoning by Mercury.

Calomel—red precipitate—turbeth mineral—prussiate of mercury—vermilion—corrosive sublimate.

Symptoms.—A nasty metallic taste—dryness of mouth and gullet—vomiting—belching—hiccough—bloody stools—intense thirst—difficulty in breathing, swallowing, and making water—cramps—clammy skin—icy coldness of skin and extremities—convulsions—delirium—and death in from one to three days.

Treatment.—Large quantities of white of egg—the whites of a dozen eggs, diluted in two pints of water, must be given repeatedly till the stomach is full: or else a mixture of soap and the gluten of wheat flour; but if these are not at hand—linseed tea—sugar and water—barley water, or other soothing drinks should be given. Then apply the stomach-pump, and treat whatever inflammatory symptoms may arise.

Copper as a Poison.

Verdigris, or oxide of copper—blue stone, blue vitriol, or copperas verditer.

Symptoms.—Cooking in untinned copper vessels will cause this poisoning; or cooking in vessels with copper stop-cocks, when any acid or grease is present. The tongue is dry and parched—an acrid coppery taste—coppery belching—spitting—nausea, with often vomiting, or efforts to vomit—pain in the stomach—griping—purging of bloody stools with straining efforts—belly painful and distended—heat of skin with fever. These are followed by jaundice—weakness—faintness—difficult breathing—headache—scanty urine—cold sweats, cramps, and convulsions. Jaundice is never seen in cases of poisoning from arsenic and mercury.

Treatment.—Dilute and mix the whites of a dozen eggs in two pints of cold water, and give wineglassfuls every three or four minutes—or give draughts of syrup—of sugar and water, till the stomach throws up its contents. Then administer the albumen in smaller doses than at first, and treat the inflammatory symptoms as usual.

Poisoning by Tin.

Butter of tin—salt of tin—muriate of tin—putty powder—flowers of tin—worm powder.

Symptoms.—The salt of tin has been mistaken for com-

mon salt. Colic and purging. Taken in large doses—convulsions, palsy, and death are the effects.

Treatment.—Milk—warm or cold water must be given often, and magnesia should be mixed with the milk, or with albumen. For the colic, leeches and fomentations; for convulsions, opium; as recommended against the convulsions in poisoning from antimony.

Zinc Poisoning.

White vitriol—white copperas—vitriol of zinc—flowers of zinc.

Symptoms.—The usual taste of metal in the mouth, with tightness about the throat—vomiting and purging—pains in stomach and belly—pale face and clammy skin—difficult breathing—seldom death.

Treatment.—Copious drinks of milk or warm milk and water—clysters, leeches, fomenting, &c.

Silver as a Poison.

Lunar caustic—fulminating silver.

For symptoms, see those of mercury, though the stomach pain is generally more severe, and the breathing is very labouring and heavy.

Treatment.—Dissolve a tablespoonful of common salt in two pints of water, and give in glassfuls; or else give sea water. Then an emetic had better be given, and finally inflammation must be subdued if it arise.

Poisoning by Nitre.

Nitrate of potash—saltpetre—salprunella.

Saltpetre has been mistaken for Glauber's salts.

Symptoms.—Vomiting of bloody matter—sinking pulse—clammy sweats—pains of stomach—faintness—convulsions. Death sometimes in from three to sixty hours.

Treatment.—No antidote is known, so we must give an emetic, or use the stomach-pump; with copious draughts of warm water to promote vomiting.

Poisoning by Liver of Sulphur.

Hepar sulphuris, or sulphuret of potassium, is used in medicated baths, and they are sometimes dangerous; but

poisoning mostly ensues from taking it as a draught. Three or four drachms caused death in fifteen minutes.

Symptoms.—Vomiting, faintness, pain, and sulphuretted hydrogen fumes may be smelt.

Treatment.—Promote vomiting by a large teaspoonful of mustard, or two tablespoonfuls of salt; and give mucilaginous drinks, mixed with a weak solution of chloride (hypochlorite) of soda or lime, so long as the fumes of sulphuretted hydrogen are smelt. After a time, clysters of the chlorides will be useful.

Poisoning by Baryta.

Heavy spar—ponderous earth—muriate of barytes—cawk, or—heavy stone.

Symptoms.—Vomiting—convulsions—palsy in the limbs—headache—deafness—pains in the belly—hiccough—colic. Death sometimes in eight or ten minutes, or within an hour.

Treatment.—Give freely of the sulphates of magnesia or soda in water, and as soon as possible—for in a little time all may be lost. When the cawk, or heavy stone, which is a carbonate of barytes, has been taken, a mixture of vinegar with one of the alkaline sulphates should be given. Sugared water, and mild soothing drink afterwards.

Phosphorus.

Symptoms.—From three quarters of a grain to two grains, it has been stated, are sufficient to destroy life, and death may take place at various periods. The symptoms are those of inflammation of the stomach and bowels.

Treatment.—Give albuminous drinks or some of the mucilages, having mixed magnesia with them—then emetics and purgatives. But when once the symptoms have manifested themselves, it is difficult to arrest their progress—for no antidote is known.

Cantharides, or Spanish Fly as Poison.

Symptoms.—Vomiting and purging of bloody matter—great pain at pit of stomach, with violent colic—a quick pulse—difficulty and pain in making water, and sometimes

blood is passed. To these succeed convulsions, alternating with fainting—delirium and death.

Treatment.—Drink freely of milk, thick linseed tea, or mucilage of gum arabic. If there is no vomiting, give an emetic—clysters of gruel—fomentations—hip-bath.

Swallowing Glass and Enamel.

Make the person or child eat large quantities of beans, potatoes, cabbage, or bread—so as to fill the stomach and protect it from the edges or points of the glass.

Lead Poison.

Sugar of lead—white lead—litharge—Goulard's extract—red lead.

Lead is often injurious to man, and is administered in various ways—when taken in small quantities at a time, the disease called painter's or lead colic is produced—which see—but when in largely poisonous doses, the symptoms are—metallic taste in the mouth—tightness of throat—pains in the stomach—retching, often of blood.

Treatment.—Give freely of solutions of the sulphates of magnesia or of soda—also milk or albumen in large quantity. The stomach-pump may be of service, or an emetic of sulphate of zinc, if there is no vomiting present already.

Poisoning by Acrid Plants.

These are—aconite or monkshood, anemone, Barbadoes nut, bryony, buttercup, celandine, crown imperial, daffodil, elder, hedge hyssop, hellebore, marsh marygold, mezereon, meadow saffron, palma christi, poison vine or oak, savine, spurge, squills, stavesacre, virgin's bower, and wallpepper. Besides these there are certain vegetable productions, which are poisonous; these are—aconitine, colchicine, colocynth, croton oil, delphinine, elaterium, euphorbium, jalap, gamboge, oil of savin, scammony, veratrine.

Symptoms.—Dryness and heat of the mouth, with a taste acrid or bitter; there is a sensation of strangling in

the throat, difficulty of swallowing, vomiting, purging, pain, more or less, in the stomach and bowels. The nervous system then seems to suffer, and the person totters as if intoxicated; the breathing becomes oppressed—great weakness and sinking—convulsions, and death.

Treatment.—We must get rid of the poison, as soon as possible, by the stomach-pump; or else by an emetic of twenty to twenty-four grains of sulphate of zinc, or by a teaspoonful of flour of mustard, or two or three tablespoonfuls of common salt in water—or else tickle the back of the throat with finger or feather; then encourage the vomiting by drinks of warm water, sugared water, barley-water, &c. &c. Avoid giving vinegar or any acids.

When stupefaction comes on—coffee, cold dash of water repeatedly—walking about, if feasible.

Stupifying, or Narcotic Poisons.

The poppy, bittersweet, yew leaves, cherry laurel, henbane, poison lettuce, prussic acid, opium, &c., come under this class.

The symptoms are—sleepiness, then stupor, palsy, apoplexy, and death. The pupils of the eyes are generally contracted.

Treatment.—Here, again, we must get rid of the poison, by immediately introducing the stomach-pump, only using infusion of galls, instead of water, if it can be quickly got, or we may give twenty-five to thirty grains of the sulphate of zinc in two tablespoonfuls of water, or by flour of mustard, or three tablespoonfuls of salt—encourage the vomiting by irritating the gullet or back of the mouth. It is, however, often very difficult to excite vomiting in these cases; then we should try this draught—Take of carbonate of ammonia, twenty grains—powdered ipecacuan, thirty grains—tincture of capsicum, two teaspoonfuls, and of water, or peppermint water, three ounces.

When the stomach has been emptied, we must give frequent draughts of vinegar and water, or of some acid and water—and brandy, coffee, with cordials, must all be given. Dashing of cold water, over head and shoulders, tends much to rouse; and the person must be made to walk about as much as possible, and whether she will *or not.*

Poisoning by Prussic Acid

Is so rapid, that little can be done to prevent death, which occurs very speedily. In one or two minutes the patient is usually quite insensible, the eyes fixed and glistening, the pupils dilated and unaffected by the light, the skin cold and clammy, the limbs lie as if they had no stiffness or vitality in them, and the breathing becomes slower and slower—the pulse can hardly be felt; and the stools and water, in some cases, pass away without any consciousness of the patient. Many have asserted that a shriek or scream is uttered as the last sound from the dying person; but no such shriek or scream has been observed or heard in the human subject, though in some animals, as the cat, it is uttered

The symptoms caused by prussic acid and by opium, differ in several respects. In prussic acid cases, the coma (stupor) is almost instantaneous—in two minutes; in opium poisoning, it is seldom seen for fifteen or twenty minutes—in this latter, the pupils are commonly contracted; in prussic acid poisoning, they are dilated. Convulsions are more common in prussic acid poisoning—in this latter, death occurs generally in less than an hour; in that from opium, six to twelve hours, is the average period of death.

Treatment.—Apply dilute ammonia or smelling salts to the nostrils—then give instantly some crystals of sulphate of iron, rubbed down in a mortar, with water—give directly afterwards some liquor of potash, a teaspoonful in some water. The jaws are, however, sometimes so firmly set, that nothing can be got into the stomach, unless by a Newington's tube, or a gutta percha one, to go round and at back of the teeth—then we must dash buckets of cold water over head and back repeatedly. Cold affusion, ammonia, brandy, and stimulants are what we must trust to.

There is but little time, for anything to be done.

Poisons, which are both Acrid and Stupifying.

This class comprises the deadly nightshade, hemlock, tobacco, poisonous fungi or mushrooms, ergot or spurred rye, camphor, strychnine from nux vomica, ardent spirits

Poisoning by Mushrooms.

There is so great a difficulty in distinguishing the wholesome mushroom from the poisonous kind, that they had better not be eaten, unless grown for the purpose in mushroom beds. The eatable kinds are the field or cultivated mushroom—the common morel, and the common truffle. We may suspect fungi, which grow in moist, shady places—have many colours or are gaudily coloured—are dirty or bitten on the surface, and have soft stems. The Russians eat them freely, but they always salt, boil, and compress them—and thus the mushrooms perhaps are rendered harmless, just as the pickling and washing of the poisonous agaric of the olive render it eatable by the natives of the Cevennes. In the north-east of Asia, the Bug-agaric is eaten by the Kamtschadales, as an intoxicating agent; and it causes the urine of those, who have eaten it, to possess an inebriating power—so that the urine is treasured up for that purpose.

Symptoms are sometimes those of a narcotic (stupifying) kind—at others, of an irritant nature, giddiness, dim sight, with illusions of sight. After the drowsiness passes off, nausea and vomiting succeed, though these states sometimes precede the stupor—then come on, pains in the bowels—convulsions.

Treatment.—Use the stomach-pump—and clear the stomach by emetics, by a teaspoonful of flour of mustard, or three tablespoonfuls of common salt in half a pint of water. If inflammation in stomach or bowels arise, leech; and give purgatives, and treat as for inflammation.

Nux Vomica, &c., as a Poison.

Under this head come—nux vomica, St. Ignatius' bean, false angustura, Indian nut or cocculus indicus, woorara or Indian arrow poison, camphire, strychnine, brucine.

Symptoms.—Stiffness of back, head drawn back, irregular breathing, convulsions—the breathing is by spasms or fits, until death ensues in one of them. The sixth of a grain of strychnine killed a dog in two minutes, and the third of a grain destroyed a wild boar in ten minutes. Brucine is twenty-four times less powerful.

Treatment.—Empty the stomach by the stomach-pump, *or by an emetic of* twenty-six grains of sulphate of zinc, or

mustard or common salt, as above—then dilute freely with vinegar and water. If the breathing stops, try artificial respiration as in cases of drowning. A spoonful of this mixture should be given every ten minutes:—of sulphuric ether, sixty drops—spirits of turpentine, two drachms—of sugar, half an ounce—and of water two ounces. Mix.

Poisoning by Hemlock, Nightshade, &c.

Deadly nightshade—water hemlock—fool's parsley—hemlock—hemlock dropwort—tobacco—laurel rose—thorn apple—rue—foxglove—manchineel—darnel or ryegrass—ergot of rye—atropine—nicotine—digitaline.

Symptoms.—Agitation of a nervous kind—pain—convulsive movements of various parts—sometimes locked jaw—delirium, often of a very merry, laughing character—retching, vomiting, and purging, with pains in the belly—intoxication, with depression and trembling, a sinking pulse, clammy sweats, and death. The fool's parsley (œthusa cynapium) is common in gardens and hedgerows, and it so much resembles the edible, innocent parsley, that mistakes are frequently occurring; but it may be known from the garden parsley, by the smell of its leaves when rubbed, which is peculiar, disagreeable, and very different from that possessed by the leaves of parsley. The flowers are white—those of the garden parsley are of a pale yellow colour.

The water parsnip, or hemlock water-drop wort, is a very virulent poison—it grows abundantly in the south of Ireland. The only way to distinguish it, is by the botanical characters.

The true hemlock is the only plant of the kind with a smooth, spotted stem. The bruised leaves emit an odour like that of mice.

Treatment.—An emetic of ipecacuan and sulphate of zinc—twenty grains of ipecacuan—with ten grains of the zinc, or mustard flour, or common salt. The stomach-pump should be used—if at hand—then give a purgative, Epsom salts or Glauber's salts. For the stupor, &c., do as is recommended for opium—a little blood taken from the arm will relieve probably. If inflammation ensue, act accordingly.

Poisoning by Alcohol—Ardent Spirits.

Rum and brandy contain about fifty-three per cent. of alcohol by measure—gin and whisky about fifty-seven per cent.

Symptoms.—Violent excitement—flushing of face—contracted pupils of the eyes—giddiness and delirium—followed by dozing and dangerous sleep—and, from this, the patient may awaken only to die. The lividly pale face; the deep snoring breathing, and a dilated, motionless pupil of the eye, proclaim that death is not far off, or that recovery is beyond all hope. The breath issues from the mouth, charged with the alcoholic vapour—by the smell of which, cases of dangerous drunkenness may be discriminated from those of apoplexy—the contracted pupil also distinguishes drunkenness from apoplexy—the pupils of the eyes are contracted in natural sleep, in poisoning from opium and alcohol—it is dilated in compression of the brain. In Germany, Liebig tells us, a poisonous wine is drunk—that is to say, it is poisonous, because fermentation is still going on—the heat of the stomach increases the effect of the carbonic acid gas which is given off from the fermenting wine—and this gas penetrates through the coats of the stomach, and rises through all the intervening textures, until it arrives at, and fills the air-cells of the lungs—of course displacing the atmospheric air. The symptoms of suffocation from an irrespirable gas ensue. Here, the best remedy is to make the patient inhale the fumes of ammonia. This wine is called the feather white wine.

Besides this acute poisoning by alcohol—there are also cases of chronic, or slow poisoning—infinitely more numerous, and quite as deadly in the long run, as those of acute poisoning,

These chronic results of excessive drinking are called delirium tremens. Irritative indigestion—fulness of the head—looseness of the bowels—vomiting—sometimes jaundice—the nutmeg liver—dropsy—diabetes—palsy—insanity—are the symptoms and results.

Treatment.—In all acute cases, empty the stomach by means of the stomach-pump—or by mustard, flour, or salt. Dash buckets of cold water over the drunken person, provided his skin is warm and not cold. Cold water into the ears, has roused a little sometimes.

The *carbonate* and acetate of ammonia are the medicines

to be given—three to five grains of the former in water—heat to the pit of the stomach—loosening all tight cravats, or ligatures about the neck—laying the head rather high—cloths dipped in warm vinegar, to rub the body with. The dangerous signs are a failing pulse—body getting colder—eyes insensible to light—laboured breathing.

Many are saved by the early occurrence of vomiting.

With respect to delirium tremens, liver diseases, stomach and bowel ailments, jaundice, &c., see the respective articles for the proper treatment.

Putrefying, or Septic Poisons.

Poisonous serpents and insects—mad dogs—diseased fish—sausages, saveloys, &c., kept too long—rancid bacon—flesh of animals under certain circumstances. In 1842 some people in Toulouse were poisoned by eating snails which had been feeding on the coriaria myrtifolia. The mussel, oyster, crab, herring, trout, sprat, mackerel, salmon, and the eel, come under this denomination.

Symptoms.—Chills—pains in stomach and head—restlessness—thirst—redness and swelling of face and eyelids—itching of skin—red, puffy blotches over the body, like violent nettlerash—convulsions, and sometimes death in from three hours to as many days.

Treatment.—This depends on the time which has elapsed, since the poison has been eaten—if within an hour, give an emetic—the mustard, common salt, or sulphate of zinc—if a longer time have elapsed, give a strong purgative, to carry the poisonous materials quickly through the bowels. Give strong lemonade as a drink.

Where a person has been bitten by any venomous snake, a sharp burning pain is felt, where the two small wounds are visible—swelling succeeds, to a great extent and degree—red inflamed lines run up the limb, and knots of inflamed glands are visible in their course. Fever with delirium comes on—anxiety, and great depression, with weakness—the breathing is laboured—the pulse small—pain at the chestbone—fainting—thirst—a feeling of sickness—and vomiting. The wounded part becomes gangrenous—green-coloured—and the part dies, and may be thrown off in time—with an offensive smell.

Death from a viper's bite occurs in 30 or 40 hours usually—but in the bites of the rattlesnake, the cobra di

capello, &c., death occurs speedily—unless the person survive the first deadly effect—then he is cut off by irritative fever, inflammation, and the gangrene.

Treatment.—Apply a cupping glass to the wounds—then cut the skin with lancet or penknife, and apply the cupping glass—or suck with the mouth, which may be done with impunity—if the mouth and gums are everywhere sound—and if the poison is spit out again directly. We should bind a ligature tightly round the limb, between the bite and the heart. If the limb is swollen, the skin should be smeared with oil—and if we see the wound shortly after it has been inflicted, a strong acetic acid should be applied to the wound—for this acid coagulates the poison. For the constitutional treatment, strong stimulants. Brandy and ammonia—and brandy has been given in very large quantities, without causing the slightest intoxication—it must be given in wineglassfuls, very rapidly—and it will only just support the nervous system under the severe sinking produced by the deadly poison—besides give 30 drops of the compound tincture of ammonia, in water, every half hour. In the island of St. Lucia, where bites from the deadly coluber carinatus are frequent, Mr. Ireland cured all his cases of bites from this snake, by giving arsenic—two drachms of Fowler's solution of arsenic, ten drops of laudanum, and half-an-ounce of lime juice every half-hour—six to eight doses sufficed usually. If this solution is not at hand, half-a-grain of arsenic may be given every half-hour. The success of the Tanjore pill suggested the use of arsenic.

There is strong evidence as to the good effects of poultices of ipecacuan in the bites of venomous snakes. We read of the guaco, the ophyoxyllon, and of other plants, being successful remedies both as preventives of danger, and as curatives; but the best plan to be adopted is the one detailed above.

The fever and local inflammation, with its gangrene, must be treated on general principles—*see* INFLAMMATION. Painting the swollen, inflamed part with tincture of iodine—thirty-four grains of iodine to each ounce of spirits of wine—will do the most good in the early stage. It should be applied by a brush every day—and the swelling and inflammation sometimes are speedily reduced.

When gangrene has set in—and the parts are separating *with a bad smell*—the charcoal poultice often renewed—and

cloths, wetted with solutions of chloride of soda or lime, should be put over the parts.

A great deal of bile is formed in snake bites; so where the sinking and exhaustion are gone by, an emetic would be advisable—if there had been no vomiting previously. For much pain—give opium—thirty drops or more of tincture of opium, at night, or oftener in some water.

In the Indies, in Africa, and South America, much irritation and suffering take place from the stings of insects. The scorpion's bite produces sharp pain, local inflammation, with depression and some constitutional suffering, which in one case lasted thirty-six hours; but Kirby and Spence tell us, that the black scorpion of Ceylon frequently inflicts a mortal wound.

The scolopendra, is sometimes a foot long in Jamaica and elsewhere; and some spiders in hot climates can inflict tolerably severe wounds. The tarantula of southern Italy, has been the subject of many fabulous accounts—its bite produces no injurious effects on the human subject. But a spider is found in the East—the argas persicus—the punaise venimeuse de miana of travellers—whose bite is poisonous—causing low fever; but this account has been denied by several travellers, as well as affirmed; it is not likely that so small an insect should produce, such alarming effects in a human body by a single bite.

The bee, the wasp, the hornet, musquito, and the harvest bug, often cause great irritation—in proportion to the number of stings. The most fatal cases, and the only fatal cases from a single sting, is where a wasp or bee has been swallowed in some fruit, and then stung the back part of the throat, or near the windpipe.

Treatment.—In the case of a sting in the throat—apply leeches externally, and use gargles of hot salt-and-water, to cause a flow of saliva and mucus, and so lessen the swelling; but if suffocation be threatened, open the windpipe. This can be done with a common penknife, or very sharp knife; if a person will but insert the point and shoulder of the knife in the *exact* central line of the fore-part of the throat, about seven-eighths of an inch to one inch below the projection called Adam's apple. Of course, if a medical man can be obtained, he should be waited for; but if there is no one, and suffocation threatens life, it is better for a non-professional person to do it, if he possess coolness and courage.

The central line is the spot, and the instant the air-pipe is opened, the operator will be made aware of it, by a rush of air, and by all resistance to the knife's point ceasing.

In stings from bees, wasps, &c., examine the part with a lens, and extract the stings, which are often left in the wounds, with a pair of forceps or small pliers. Apply cold water. Some recommend scraped flour, chalk, or starch—ome apply oil.

The author paints with tincture of iodine, once every day or every other day; but Goulard water is very useful—keeping the part always wet with renewed wet linen.

HYDROPHOBIA. (*See* Section IV. and Index.)

ACCIDENTS.

Suspended Animation, or Asphyxia, is of somewhat frequent occurrence.

The atmosphere is continually receiving quantities of freshly evolved gases, from various sources—but Nature has set up various modes of keeping the air pure.

From a curious statistical digest, not long ago published, it appears that the human family numbers 700 millions, and its annual loss is 18 millions, which produces 624,400 tons of animal matter, which, in turn, generate, by decomposition, 9000 millions cubic feet of gases, which are cleared away from the atmosphere by vegetable matter decomposing and assimilating them for their own uses. But let these gases be evolved into, and retained within, confined or narrow bounds—they will render that place very dangerous for human beings to live in—particularly to sleep in.

APPARENT DEATH FROM CHARCOAL VAPOUR AND CARBONIC ACID GAS.

We hear of death from persons sleeping near lime-kilns, or in close rooms where charcoal or coke has been burning. In pits, wells, and in breweries where fermentation is going on, there is danger from this gas; also in very crowded rooms, where many candles or lamps have been burning, and many grown-up persons vitiating the air.

One per cent. of carbonic acid gas in a room will cause *uneasiness*—and ten per cent. is probably the limit, where

immediate danger to life is threatened; and every grown-up person vitiates 216 cubic feet per hour of the atmospheric air. And thus, if too many persons sleep in a room, or pass several hours crowded together in rooms which are not properly ventilated, the atmosphere becomes dangerously deteriorated, and many are carried out half fainting, or headache comes on, &c.

Cool air, admitted into a crowded apartment from the floor, has its temperature raised from ten to twenty degrees, by the time it rises to the height of the heads of the people in the room: at this altitude it receives the admixture of carbonic acid gas from the mouths and nostrils of those who are in the room; and the air is further vitiated by the burning of candles, and the exhalations from the skins of so many people.

The air ascends, and accumulates above, but it is displaced by successive portions of heated air, cools, and re-descends below the faces of the persons—to be again breathed—until it can be breathed no longer, from its increasing impurity. If the room is well ventilated, and the vitiated, heated air is carried off as fast as it is formed, no mischief of this kind can ensue.

Animation is sometimes suspended, by people, on going to sleep, leaving a fire burning in the sleeping-room, which fire is useful so long as it burns—but when, towards morning, it goes out, the cold air descends down the chimney, and drives fumes of carbonic acid gas, sulphur, &c., into the bed-room. In the holds of ships there is often an accumulation of this gas.

Whenever this is feared, we should try the purity of the air by letting down a lighted candle, which burns with an elongated flame, if the air is a little vitiated, but goes out at once, if there is much of this gas; but there still may be danger, even although the candle continues to burn—so we must not depend on that alone.

If any one falls into this gas in wells, or ships' holds, or elsewhere, let no one try to extricate him rashly; he should wear over the mouth and nostrils a cloth soaked in lime-water, or in a weak solution of caustic potash, or even in plain water. Water should be dashed over the person and place, or the gas let out, (if in a large beer-barrel,) by making a hole instantly with an axe, at its bottom, when the gas will pour out like water—being much heavier than the atmospheric air.

In all rooms where this gas may be expected to accumulate, one mode of ventilation may be derived from the chemical action of lime, and we should spread a quantity of newly-slaked lime on a board: the lime, by its affinity for it, will absorb the carbonic acid gas from the atmosphere of the room, and thus purify it—giving admission to fresh, pure air.

To show the baneful effects of this gas upon the health of people, Mr. Chadwick relates that typhus fever occurred frequently, and fifty-seven cases of it in the last two months of 1831, in a large house, called the Barrack, at Glasgow, wherein numbers of poor people lived crowded together. At length, a medical man induced some one to fix into the ceiling of each room, a tube which communicated with the chimney of a neighbouring factory. From that time, fever was well-nigh expelled from the place; since ventilation had been effected.

Symptoms.—Death from drowning, or strangulation, arises from a negation of air—but from carbonic acid gas, there is a poisonous, narcotic (stupifying) action also—the symptoms vary with the proportion of the gas inspired.

In fatal cases, the person is rendered instantly insensible, and he falls to the ground, or lowest point—the breathing is at first difficult and snoring, but it soon ceases altogether—the body continues warm, and the limbs are flexible, though sometimes stiff or convulsed—the face is of a leaden colour, or very pale, particularly the lips and eyelids. Vomiting occurs in some.

On recovery, headache, pain or soreness in the body, and sometimes palsy of the muscles of the face occurs.

Treatment—Cold water affusion should be practised, and the chest, and extremities, and soles of feet, rubbed with stimulating liquids and a brush—if the body is cold, a warm bath. When signs of recovery are apparent, blood should be taken from the arm, if feasible. Blowing into the airpipes, not too strongly, with a pair of bellows, may be useful. Smelling-salts to the nostrils. When roused, give some brandy—rub the body dry, and put him into a warm bed.

In suspended animation from charcoal vapour, from coal vapour or sulphurous acid, the vapour of limekilns, or from confined air, the treatment is similar.

Coal Gas.—Carburetted Hydrogen.—Carbonic Oxide.

The odour of this gas is well known, which is owing to the vapour of naphtha; and we must be cautious wherever it is to be smelt, for it may do much mischief, although considerably diluted. This odour is sensible, when the gas forms only a thousandth part—it is more so when forming a seven hundredth, and it is well marked when forming an hundred and fiftieth part. When air contains nine per cent. of it, it may destroy life, if long respired. Beware of taking a lighted candle into any place, where this gas is suspected to be. It is a very penetrating gas, passing through floors, bricks, &c.

Symptoms.—Nausea, headache, vomiting, weakness, mind is confused, some paralytic symptoms may exist, pale face, impeded breathing, and other signs such as are before described, or convulsions.

Above nine per cent. of this gas forms an explosive mixture with air.

Gas from Drains and Sewers.—Sulphuretted Hydrogen.

From six to eight per cent. of this gas might kill.

Symptoms.—Giddiness, sickness, debility, face pale, lips of violet hue, and the person falls inanimate. If the gas is less concentrated, the symptoms vary, acting like a narcotic irritant, whereas it is a narcotic when concentrated.

Treatment.—Removal into pure air, affusion of cold water, bleeding, stimulants. This gas will destroy life by its action on the skin—for a rabbit, which was inclosed in a bladder of sulphuretted hydrogen gas, but which was allowed to breathe freely in the atmosphere, died in ten minutes.

Apparent Death from Drowning.

A person cannot remain beneath the surface of the water longer than two minutes, without a suspension of animation taking place. Among the Navarino sponge divers, not one of them could sustain the entire submersion

of the body for two consecutive minutes; and the average period was seventy-six seconds.

And the best pearl divers in Ceylon could rarely sustain immersion longer than fifty seconds.

How long the period of entire submersion is required to be, for death to take place, when there is no longer a hope of resuscitation, is not settled; for while some, who had not been entirely submerged for longer than a minute, and whose bodies were still warm and pliant, could not be resuscitated, others have been recovered who had been submerged several minutes; yet equally judicious treatment may have been adopted in both cases.

The probable reason is to be found in the fact, that the susceptibility to the restoration of life, may be different in different individuals; and while some are more tenacious of life than others, and more easily acted upon by stimuli, the circumstances preceding or attending the submersion may also differ.

Resuscitation has been effected after an entire submersion of five consecutive minutes—and perhaps this might be taken as a maximum—still many instances are on record, of recovery after submersion for a much longer time—some of these narratives are entitled to credit, though others are altogether to be discredited. Our duty is plain enough—and that is, to persevere in our efforts to restore animation, for longer than the above statements would encourage us to do. In one case, an hour and a half elapsed before there were any signs of returning animation; and in Dr. Douglas's case, resuscitation began to be established, though feebly, even then, after eight hours and a half spent in treatment.

Treatment.—Immediate treatment is of the utmost consequence—a delay of ten or more minutes, or less, may be fatal—and it is more important to look to this, than to the mere period of submersion. Wipe the body dry—raise the head and shoulders—restore the warmth of the body by warm blankets, bottles of hot water, bags of hot sand, applied especially to pit of the stomach, and to the feet—the warm water bath or warm air bath—the hot air bath is preferable to the water bath, because the skin then acts as a respiratory organ—the heat of the bath should be 98° or 100°, supposing the submersed person to have been taken out of water of from 50° to 60° of temperature; or *the bath may be as hot as the hand can bear—but if*

submersed in water but little above 32°, the heat of the bath should not exceed 85° or 90°; for the temperature of an animal is in proportion to the quantity of air it consumes—and a sudden rise of temperature demanding a consumption of more oxygen, might be fatal, instead of useful.

We should apply stimulants (ammonia) to the nostrils. We should clear the mouth and nostrils of mucus; and try to move the chest mechanically, by pressing on the chestbone or ribs, and allowing them to rise again. And, above all, we must diligently rub all parts with stimulating applications, the compound camphor liniment, or tincture of cantharides and oil, &c.

Some try artificial inflation of the lungs by the bellows; but Mr. Woolley, of the Humane Society, denies its efficacy; while it interferes with our keeping up energetic friction. More good might ensue from getting air out of the lungs, than by forcing any in; because the mechanical movement of the chest in respiration might follow. If the bellows inflation is tried, our efforts should be gentle, or the air cells may be ruptured.

Electricity or galvanism has been recommended; and though no time should be lost in waiting for either, yet, when ready, either should be tried. Galvanism might be of service—one disc being placed at the back of the neck, the other at the pit of the stomach in front; and the galvanic influence so passed.

As soon as signs of recovery appear, and a power of swallowing has returned, we may administer stimulants—brandy-and-water, half-and-half, wine, &c. Some throw into the stomach a little of one of these stimulants, by means of the stomach-pump.

Suspended Animation from Strangling or Hanging.

Symptoms.—The venous blood is prevented returning from the head by the rope round the neck; thus the face becomes nearly of a black colour—the eye-balls stand out from their sockets—and the nostrils are unnaturally widely distended.

Treatment.—Bleed from the jugular vein or arm directly—use the bellows to inflate the lungs—and treat as for

drowning, with the exception of restoring warmth to the body by artificial warmth.

Substances falling into the Air-Pipe.

When this is the case—if the body is not readily dislodged, and distress increases—cut into the air-pipe, in the central line, an inch, or a little less, below the projection in the neck, called Adam's apple, with a good penknife. This may be done without danger.

Substances in the gullet may often be shot out by an effort at vomiting, or dislodged by some one putting his forefinger down as low as he can, or by a pair of small pliers.

Lightning Stroke.

Little is to be done—galvanism might be tried, and the bellows, to inflate the lungs. A fever often follows recovery from this accident.

Intense Cold.

Symptoms.—General numbness—a sort of intoxication—inclination, almost irresistible, to sleep—loss of consciousness, of sensibility, and of life.

Treatment.—Wrap the body in a blanket—rub the naked body with snow, pounded ice, or cold water, rubbing from the body towards the legs—then, after some time, rub with cloths dipped in milk-warm water, so as to restore warmth gradually. If no snow or ice be at hand, cold-water bath, and rubbing while in the bath. When the skin begins to feel warm, put into bed, and treat as for drowning.

Frost-bitten parts must be treated on similar principles, by rubbing them with snow, pounded ice, or cold water; and we must be very cautious in giving stimulants, or applying external heat, in however slight a degree.

Apparent Death in Newborn Infants.

This occurs with two sets of symptoms—one where the

skin is pale and bloodless. Here, the navel-string must not be cut, twisted, nor dragged; but we should raise the infant's head—wrap the body in flannel—use hand friction to the backbone and the soles of the feet, while the head and face should be exposed to the air; and we must try artificial breathing through any small tube or pipe.

If the skin be dark and discoloured, and the face swollen and livid, or dark-coloured, the navel-string must be cut, and allowed to bleed; while the head is to be held up, and the chest and belly are rubbed with warm flannels. If no blood will flow, we must apply one or two leeches behind the ears, and put the infant into a warm bath. Artificial breathing should also be tried.

Substances in the Eyes.

If sand, or any small substance, or an insect, &c., get into the eye, it may best be removed by means of a camel-hair pencil dipped in oil, or by a bit of paper rolled up into the form of and size of a quill, and softened in the mouth.

When the substance gets fixed in the coats of the eye, it may be removed by the thumb nail, or by a blunt-pointed piece of wood.

Insects and Substances in the Ears.

Insects may be killed by dropping in any sort of oil, as the oil of almonds or olive oil. Small substances may be extracted with small forceps, pliers, or tweezers; and they should be extracted as soon as possible; for if inflammation were set up, it might in some constitutions cause danger, by extending to the brain.

Leeches may be expelled from any place by a strong solution of common salt.

Burns and Scalds

Have been treated of in the fourth section (*see* Index); but here we may say, that for trifling and non-extensive burns and scalds, cold water or Goulard water may be applied, and renewed as soon as they become warm. The

blisters are not to be opened for two or three days—then with a needle. Cerate or Carron oil may be applied—an aperient—and poultices afterwards.

In children and infants, even slight burns are dangerous. For severe burns or scalds, or where they are extensive, no cold applications; but bathe the parts with linen dipped in warm spirit of turpentine, or spirits of wine; then, a cerate of one part of oil of turpentine and two parts of Basilica ointment, or of common lard, if no other cerate be at hand. Open all blisters with a needle; if there is much discharge, sprinkle finely powdered chalk, and apply a linseed poultice over the parts.

A low fever often follows. Do not lower by bleeding or by strong purgatives, but support the strength, not by stimulants, but by rice-milk, chicken broth, and such like.

When matter (discharge) begins to form, dress with creasote ointment—thirty drops of creasote to one ounce of lard—rub them well together. This may prevent scars from being so deep as they otherwise might be.

Sprains

Are sometimes very severe accidents, producing great pain and swelling, followed by inflammation, and where a large joint, such as the knee, or even the ankle, is affected, there may be fever also.

Treatment.—Rest in the position the most easy for the part is essential—neither should the sprained part hang down—fomentations of hot water, or cold water, if the sufferer find more ease from it than from hot. The inflammation must be first completely subdued, and if it linger about, two or three blisters to remove it. Then rub the part two or three times a day, with the hand, or with opodeldoc—after some time, moderate exercise, and a flannel bandage, evenly applied. Sprains often leave a weakness of the part behind, if they are not properly treated at first.

Bruises or Contusions

May be of all degrees of severity—the pain and swelling corresponding. Sometimes the swelling is so great, that the skin threatens to burst—then a small opening should

be made. The skin is discolored—turning from a reddish hue to a black, and in no long time. In about three or four days the colour is violet, and the edges fade away into the surrounding skin—the colour becomes in a few more days green and then yellow, when the discoloration soon after disappears.

Treatment.—In slight cases we must bathe the part with vinegar and water, or spirits and water, or paint them with iodine tincture—twenty grains to the ounce of spirits of wine; if any iodine be at hand. The bruised part should, like the sprained, be kept at rest, and in a raised position. Cold or iced water is a good application; but in the severer cases, inflammation must be guarded against by leeches near to the part, not on it, by purgatives, low diet, and rest.

Cuts and Wounds.

A simple cut, of no great depth nor extent, merely requires to have its edges brought together by sticking plaster, after the part has been thoroughly cleaned from dirt, &c.; but sometimes an artery is wounded, and the case becomes serious. When cuts bleed much, we shall know when an artery is wounded, by the blood issuing forth in jets or jumps—if it flows evenly out, and is not of a bright red colour, the blood comes from a vein. In all cases pressure is necessary; and when an artery is wounded, put your finger at once and boldly into the wound, down to the bleeding point or spot; which spot is ascertained by the warm, gushing blood. Keep your finger there, until other arrangements can be made. Apply a tourniquet on the limb, above the wound, or a silk handkerchief twisted tight by a piece of wood. The pressure, to be effectual, must be nicely applied; and the first application should be of lint or linen, formed into a fine point, which should fit accurately the bleeding point; upon this lay another piece of folded linen, a little larger; over that another, until there are several, and all must be kept tightly pressing on the point by a bandage, to keep all in their places. Rest, of course, is essential. But if a large artery be wounded, a surgeon becomes necessary, to stop the bleeding, by putting some silk thread round the vessel higher up on the limb.

Fractures, or Broken Bones.

These should be put under a surgeon's care as soon as possible; but if no one is at hand, an attempt must be made to do what is necessary. The symptoms of fracture are evident—loss of motion, with distortion or deformity of the limb, which may be bent, shortened, or twisted, the ends of the fractured bone grate on each other on moving them, and there will be pain on motion, and spasms or startings of the muscles.

Treatment.—Remove the person in the gentlest manner possible; and then the ends of the broken bone are to be placed in their natural position, so maintained, and perfect rest must be afterwards enforced.

To effect the first purpose—the broken ends often ride over each other; then the limb requires to be extended—that is, pulled gently and firmly in the proper direction, and so fixed, that the muscles may not again displace the broken ends. Before doing this, we must relax all the muscles, which oppose our efforts, as far as we can, and keep the limb in as easy a position as possible. This is called setting or reducing the fracture, and requires two persons—one to hold firm one part of the limb, the other to extend or pull it downwards, or in the right direction.

The limb must next be maintained in this position by some mechanical contrivance. For this purpose splints are used; they are made of thin plates of wood. A measure should be taken of the sound limb, and the splints should be made long enough to rest against the firm, projecting bony points of the limb. The splints should be scored in their length, so as to allow of their readily adapting themselves to the part; and wherever they rest upon or touch projecting points, a padding of loose tow, or thick blanket, must be inserted. These splints are kept in their places by bandages; but if there is much swelling, the splints and bandages must not be applied till it is gone down; and if swelling come on after their application, they must be taken off, or inflammation and gangrene may ensue. Wherefore every one should examine daily the state of the limb, after the bandages have been applied, to detect the first and earliest appearance of swelling.

Other splints have been tried: pasteboard softened in boiling water, so fitted to the part, and allowed to dry and stiffen; or layers of lint and bandage, or old linen, soaked

in starch mucilage, forms a dry, light, yet unyielding support. Straw splints may be used, made by filling a linen bag of the size required with unbroken wheat straw; such as is used in thatching, the straw being cut to the length of the limb, and the open end of the bag, then sewn up. This is splint and bandage in one, and will best suit the emigrant.

If muscular twitches of the limb are troublesome, some tincture of opium must be given—twenty-five or thirty drops at night, in water. Inflammation must be subdued by cold lotions, aperients, leeches, &c. &c.; and if debility come on, the strength must be supported, without over-stimulating.

Broken bones become consolidated in young persons from the twenty-eighth to the thirtieth day after the accident; in grown-up people from the thirtieth to the thirty-fifth day; and, in the aged, from the thirty-fifth to the fortieth day.

If a fracture has united crookedly, an attempt must be made to set it right, by bending the part; and this can usually be done with success before the fourth week has elapsed, or even later.

Dislocations

May happen to the emigrant at any time, and should be reduced immediately—before the person has recovered from the shock, and before the muscles have had time to contract and fix the bone in its new position.

Dislocation is distinguished from fracture without difficulty; there is none of the grating noise usual in fractures—the fractured bone, when set right, becomes distorted again directly—not so the dislocated bone. The fractured bone is more readily moved than even the sound bone—not so the dislocated bone. The form of the joint is changed in this latter.

Treatment.—A towel, applied so as not to injure the skin, is to be fixed round the dislocated bone—while another is to be wrapped round the body, or applied to the upper limb, so as to afford a fixed and unyielding point of resistance. Then the dislocated bone must be gradually extended (pulled upon), until the head of the dislocated bone is on a level with the joint; when the muscles of the part,

aided by a little guiding of the operator's hand, will cause the bone to occupy its natural situation.

Bandage the limb, so as to prevent its free use for a few days; and pumping cold water may tend to strengthen the joint.

All this should be done at once, and can be, by any cool, courageous person—for if much time go by, and the dislocation remain, pulleys are often required to effect the reduction, and tartar emetic to lower the power of the resisting muscles. Here a surgeon's help is indispensable.

Ruptures

Are soft swellings which appear in the groins, generally very suddenly, and after straining or some violent muscular effort.

If the fingers be placed on the swelling, an impulse may be felt by them, on the person coughing. Now, the danger from this swelling is, that, from costiveness or other causes, it may enlarge, become hard, suffer pressure at its narrowest part—inflame, and put life in immediate danger—and requiring nothing less than a surgical operation.

When any one is thus afflicted, let him or her lie down; and after a time the swelling will probably re-enter the abdomen or belly, whence its contents were propelled. If not, after a few hours' restin the horizontal position, the swelling may be pushed up into the abdomen, by the fingers of the patient.

The next point is, to keep the said contents in their proper place, and this can only be done by stopping the hole of exit with a truss—and a truss, single or double, as the case may require, should be applied over the part where the swelling commenced, and worn constantly, while at work or in the erect position. Every one neglecting this precaution is always in danger.

Trusses should fit so well, as to give no pain by their pressure anywhere.

The only other necessary precautions are, to keep the bowels always gently open—so that a hard, straining motion is never necessary. For this purpose the powder for piles, of sulphur and jalap, is useful (see Piles), or two *or three teaspoonfuls* of Epsom salts, with ten grains of

powdered jalap, and as much of powdered ginger, when necessary; never allowing the stool to become hard.

Avoid riding on horseback, as much as possible, and all great or sudden muscular efforts.

Fainting Fits.

Keep the head low—give cold water, and sprinkle a few drops over the face. Some wine or brandy, or sal volatile, 30 drops in a wineglassful of water.

Convulsive Fits, (*see* Convulsions, also Epilepsy and Apoplexy, and Hysteria, or Hysterical Fits.)

Forms of Medicines.

Lotions

Are applied to cool the affected parts—then they should be renewed as soon as they become warm. If they are meant to soothe or act like a fomentation, then put a piece of oiled silk over the linen wetted with the lotion.

Iced water is a good lotion to inflamed parts, and when the head is hot—also in delirium, &c., &c. A cap of ice, or ice in water, in a bladder, or in a Macintosh cushion, are all of use.

In summer, water may be cooled down to the freezing point by either of the following mixtures:—

Sal ammoniac, 5 parts; nitre, 5 parts; water, 16 parts. Or, nitrate of ammonia, 1 part; carbonate of soda, 1 part; water, 1 part. Put the water into a vessel, and the vessel into the freezing mixture, and put flannel round the vessel which contains the freezing mixture.

Nitro-Muriatic Acid Lotion.—Of nitric acid, ½ oz.; muriatic acid, 1 oz. Mix. Half an ounce to a quart of water, for a lotion to the right side, when there is deficient action of the liver; to be applied by linen laid on. Two ounces of this acid to a gallon of water, for a foot-bath in similar cases, and in costiveness.

Spirit Lotion.—Of spirits of wine, 1 oz.; of water, 15 oz. Mix. Apply by means of a piece of thin muslin; to allow of rapid evaporation.

Goulard Water.—Of sugar of lead, 14 grains; of vinegar, 1 or 2 teaspoonfuls; of spirits of wine, 1 teaspoonful; and of soft water, eight ounces.

The spirits of wine may be omitted. This lotion should not be applied over open skin—over open ulcers, &c.

Zinc Lotion.—Of sulphate of zinc, 60 grains; of soft water, a pint—for bruises; and as an injection against the whites.

Alum Lotion—is made in a similar way, and used in similar cases—in sore mouth and gums; and against the whites.

Drops or Lotion for the Eye.—To 1 oz. of soft water add from two to four grains of sulphate of zinc, or one grain of sulphate of copper, or one grain of nitrate of silver. Either of these is useful in inflamed eyes. Drop one or two drops night and morning—but leeches to temples should precede—unless the inflammation is scrofulous (*see* OPHTHALMIA).

LINIMENTS

Are to redden the skin, and should be rubbed in; they tend to remove swellings, which are connected with local debility. Dip a rag in ether, or camphorated spirit, and lay it upon the skin; cover over with oiled silk—in colds, sore throats, &c., or do so with

Liniment of Ammonia, or Oil of Hartshorn.—Of liquor of ammonia, 1 oz.; olive oil, 2 oz. Mix. Or, of carbonate of ammonia, ½ oz. to 1 oz. of water; then add the oil.

Opodeldoc—Soap Liniment.—Of hard soap, 1 oz.; of camphor, 120 grains; spirits of wine or of rosemary, 5 oz. Mix.

To this 1 oz. of tincture of opium may be added—when the object is to allay local pain; rub it only on sound skin.

Turpentine Liniment.—Of soap, 1½ oz.; camphor, ½ oz.; spirits of turpentine, 8 oz. Mix. This is for severe burns.

Liniment of Lime Water.—Of linseed oil and of lime water, equal parts. Mix. For burns.

Liniment to bring out Yellow-headed Pimples.—Of olive oil, 1½ ounce; of tartar emetic, 2 drachms. Rub two teaspoonfuls into the part, night and morning, until pimples begin to appear. These pimples leave no scars behind them; those produced by tartar emetic ointment often do.

Ointments.

Tartar Emetic Ointment.—Of tartar emetic, 60 grains; lard, 1 ounce. Mix. This is used like the preceding; to relieve pain, internal chronic inflammation, &c.

Ointment for Piles.—Of powdered galls, 60 grains; lard, 1 ounce; of strong solution of subacetate of lead, 15 drops. Mix.

Ointment for the Eyelids.—Of citrine ointment, 30 grains; lard, ½ an ounce. Dissolve with gentle heat.

Sulphur, or Itch Ointment.—Of sublimed sulphur, 1½ oz.; lard, 4 oz.—rub well together. If we add 1 oz. of subcarbonate of potash, it will be more efficacious—or, ¼ of an ounce of sal ammoniac will answer equally well.

Spermaceti Ointment.—Of spermaceti, ¾ of an oz., of 6 drachms; white wax, 2 drachms; olive oil, 3 oz. Mix, with gentle heat.

Sinapism, or Mustard Poultice.

These redden the skin. Mix equal parts of flour of mustard, and of linseed meal. If the flour of mustard be made of the yellow mustard, mix the two together by means of hot vinegar—if it be made of the brown mustard, mix with hot water only. Make into a paste, and spread it on a rag and apply. The brown mustard contains the husks as well as the seeds, and the acrid oil in them, of which oil the vinegar will destroy the efficacy. Let it remain on, some eight or ten minutes, or so long as the pain or stinging is not very sharp; but in cases where these poultices are applied to a person who is unconscious, we must not allow the mustard plaster to remain longer than an hour, or gangrene might ensue. If redness, without pain, is wanted, mix with the paste a drachm or 60 drops of tincture of opium, or double that quantity of tincture of henbane. These diminish the pain, but do not impair the efficient action of the mustard.

Croton Oil

Is often applied in deep-seated pain or disease; one part of this oil to five parts of olive oil. Rub the skin first with a piece of flannel, dipped in vinegar of the strong kind, till the skin reddens; then rub in the oil, and repeat every

six hours, till some small points of eruption or pimples appear; cease then to rub—the pimples fill with liquid, dry, and the scarfskin scales off.

If these yellow-headed pimples, which are made to appear by rubbing in croton oil, tartar emetic ointment, or solution, give much trouble, or cause too much irritation, warm bread and water poultices, or of linseed meal, will soon remove it.

These applications should be made in the morning, so that the night's rest may not be broken in upon.

Blisters.

Blistering plaster should be taken, by every emigrant, ready for spreading, as it is prepared in the shops. This plaster is to be spread over a piece of leather, or even brown paper, to the thickness of a shilling, then wash the part to be blistered with soap and water, rub dry with a rough towel, apply the plaster, and keep it on the part by strips of sticking plaster—but so as to press but slightly on the blister, otherwise the blister will not rise.

If the patient is afflicted with difficulty, or irritation in passing his urine, or has a tendency so to suffer—or even if he be of an irritable habit—the blister had better be taken off, in about six hours after it has been applied—or an edge or corner may be lifted up, and if the skin begins to redden, or is become red, take it off. The blister will still rise; and no strangury is probable. And it is as well to cover the blistering plaster with gauze or some silver paper, moistened with oil, and so apply it. This is better than having to drink so very freely of barley-water, &c.; still these drinks must be taken if there is any pain or difficulty in passing the water.

It should be applied on going to bed—it will not prevent sleep—and by the morning the work is done.

If people are very sensitive, or are afraid of the pain, mix five or six grains of extract of henbane with the plaster.

An *immediate Blister*, may be made by applying steam to the part—but this may be dangerous: another way is to heat a piece of polished metal, tolerably thick, so as to retain the heat some minutes, in boiling water, and apply it to *the part affected*. Also by nitric acid, see page 218.

Blister by Lunar Caustic.—Mark the outline of the proposed blister with ink on the skin, then moisten the bottom of the stick of caustic, and pencil over the part, across and in all directions, till the part is covered. It leaves a black stain, on drying—and matter forms under the outer skin. No dressing is required, but merely making a small hole at the lowermost point of the blister.

In dressing a common blister, let out the fluid by a small opening; but do not cut off the raised skin, unless we want to keep up an open or perpetual blister. Dress with spermaceti ointment, spread on the soft side of the lint, and it will soon heal, probably. To keep the blistered surface open, it is often dressed with savin cerate; but many cannot bear the irritation. In applying this cerate, we must always at every dressing, remove the film that forms over the blistered surface; otherwise the part dries and heals. To remove this film, we must apply a hot poultice for four or six hours—or a hot fomentation—to loosen the film; which can then be removed.

In some habits, after some diseases, which have left this skin weak—and in many children—blisters will often not only refuse to heal readily, but they are followed by gangrene—and here we must poultice with charcoal or yeast poultice, give ammonia and bark, support the strength, &c. —*See* GANGRENE, Section IV.—This teaches us to be cautious, with respect to blistering young children, or applying blisters in severe cases of measles, scarlet fever, or other skin diseases—or where even great general debility is manifest.

POULTICES

Enable us to apply moisture and heat, and are applicable where fomentations are usually required. They should not be heavy nor yet very bulky; but the great point to be attended to, is their frequent renewal. Poultices are necessary, when an inflamed part throbs and forms matter (discharge)—then the sooner the matter is brought to a head, as it is called, the better—and the warmth and moisture of poultices promote suppuration. After the matter has burst forth, or the part been opened, a few more poultices should be applied, to clear the part completely.

But there are swellings, to which poultices must not be applied—they are called aneurisms, and each aneurism

consists in a permanent dilatation of an artery, sometimes produced by external violence, at others by debility or some disease in the coats of an artery.

The symptoms are—a swelling in the course of an artery, which beats like the pulse, or, as it is phrased, pulsates; and on placing the ear to the swelling, a puffing noise may often be heard.

It might readily be imagined easy to distinguish a swelling of this nature, from any common swelling, but often it is very difficult to do so—and even experienced surgeons have been deceived; and non-professional persons might easily endanger life—by first poulticing, and then using the lancet or something else, to open the swelling. A gland, or any hard swelling, when situated over the course of an artery, seems to pulsate—being raised at every pulsation of the bloodvessel beneath it—here aneurism is supposed to exist, when it does not.

The rule of safety is, never to meddle with any swellings which beat or pulsate, like the vessel at the wrist—called the pulse. Do not poultice, nor apply anything; but merely protect from pressure or from a blow—maintain rest and quietness, and consult a surgeon as soon as convenient.

In foreign lands, poultices are often used, where we in England would apply a blister, or order some stimulating narcotic liniment or embrocation. Pains in the side, at pit of stomach, in the bowels—as in colic—are often combated abroad by sprinkling powdered opium, over the surface of the poultice—and much benefit often results.

Bread and Water Poultice.—Pour boiling water over a thick slice of a quartern loaf, having previously removed the crust. Soften without pressure, by stirring it about; then drain and spread it on a rag, as hot as possible, and apply. If the poultice do not require very frequent changing, we should add some lard, to keep it moist and prevent lumps.

Oatmeal Poultice.—Keep some water boiling in a pan, and add oatmeal gradually, and in small quantities, until the poultice is thick enough. Lard may be added, also, to this, as to the one before

Arrowroot Poultice.—Mix two or more tablespoonfuls of arrowroot with cold water till it is all united—then add boiling water enough, until a thick jelly-like paste is made. This is an excellent application, and very soothing for *irritable, tender sores.*

Alum Poultice.—Mix sixty grains of alum with the whites of two eggs, till they form one body. This is useful for black eyes from bruises.

Charcoal Poultice.—This consists of two ounces of bread, an ounce and a quarter of linseed meal, powdered charcoal three drachms, and ten ounces of boiling water.

The bread stands near the fire in the water for some time—mix it, and add the linseed by degrees. When well mixed, add and mix in two drachms of the charcoal, and sprinkle the other drachm over the surface. Or any common poultice may be made, and charcoal added.

This is useful in gangrene, and in stinking sores, or ill-smelling discharges—as where pieces of bone are coming away from a leg.

Yeast Poultice.—Of beer yeast and water heated to one hundred degrees, of each five ounces, or some say eight ounces—flour, a pound. Mix the yeast with the water, and add gradually the flour, stirring assiduously. Place it near the fire until it rises.

Useful in cases similar to the preceding, of foul, fetid, irritable ulcers.

Hemlock Poultice.—Of extract of hemlock half an ounce, boiling water half a pint—add linseed meal enough to make a poultice. For irritable painful sores.

Linseed Meal Poultice.—Of boiling water ten ounces, powdered linseed four and half ounces, or more if necessary. Add the linseed to the water, stirring constantly.

A good poultice, but should be often renewed. Some deem it more irritating to the skin than the bread and water or arrowroot poultice. The husk of the linseed contains oil, and this adapts it for poultices.

Carrot Poultice.—Bruise boiled carrots into a pulp, and apply it.—To foul, irritable ulcers.

Cataplasm of Chlorinated Soda.—Of boiling water, six ounces, powdered linseed, four and half ounces, solution of chlorinated soda, two ounces. Stirring constantly, add the linseed gradually to the water, then add the soda. Applied to foul ulcers, to correct foul discharges.

Mustard Poultice.—Of tepid (not boiling) water, ten ounces, powdered linseed and mustard of each two and half ounces, or what may be necessary. Mix the powders well, and add them gradually to the water, stirring well.

Boiling water would lessen the acrimony of the mustard, so it should be only tepid—this poultice acting by its irritating qualities rather than by its heat.

It should be applied to soles of the feet in low or typhus fever, when delirium or stupor is present—in apoplexy and diseases of the head; and in deep-seated inflammatory pains.

It should be spread on cloths, to the thickness of half an inch, and left on the part until redness is excited—but it should not be left on, so long as to cause blistering. It is an excellent application, where a speedy effect is required.

The Onion Poultice—Made like the carrot poultice. It is highly stimulant, and well adapted to bring forward indolent swellings, &c.

A lump of figs is the most ancient poultice on record. *See* 2nd book of Kings, chap. xx., ver. 7.

FOMENTATIONS.

Like poultices, apply heat and moisture—the best consists of flannel cloths, wrung out of boiling water by two sticks turned in opposite directions. Shake them up, and lay these flannels lightly over the part, and the heat is retained a long time. Two pieces of flannel should be kept in readiness—each about two and a half or three yards long, with the ends sewed together to admit of the boiling water being wrung out of them; the coarser the flannel the better, as it retains the heat better, and white flannel is preferable to coloured.

Fomentations with poppy heads are liked by some persons; but the heat and moisture are the chief, if not sole agents. It may be wise sometimes to employ them—they may act through the mind.

STUPES.

It is sometimes of benefit to stupe a part—as in eye disease. The patient should operate for himself, by putting a piece of flannel in the hollow of his hand, wring it out of boiling water first, and then let sixty drops, or a teaspoonful of tincture of opium, or of henbane, or of hemlock, be poured on the flannel, and held at a proper distance, so that the vapour can be safely received, and allowed to rise to the eye or part affected.

Fomentations and stupes are the means of applying warm vapour and liquids—but there is a powerful aid towards the *prevention* of disease, and the strengthening of weakly, *delicate habits*, in the application of cold water sponging.

The chest should be sponged night and morning—back and front. Parents often object, on the ground that their children are too delicate, &c., but if we add a little spirit to the water, they become reconciled to the application. A bracing and tonic influence is thus exerted over the nerves, disease may be kept off, or will be better borne when it has attacked.

An alcoholic lotion, consisting of one part of spirits of wine and five parts of water, has been strongly recommended as a successful preventive of consumption. It is applied by means of six folds of linen, three inches broad, tightly stretched over the upper part of the chest, and over all, one fold of flannel should be put.

Both this lotion and cold sponging should be tried in all cases of debility, and of delicacy of habit.

Frictions with the naked hand, or with embrocations, or with the flesh brush or gloves, are useful in indolent glands or swellings. The strokes should be brisk—with the tips of the fingers, and 120 in a minute. A little hair-powder, or flour, will prevent the skin from suffering. In or after a bath they are useful—and in cases of deep-seated pains, friction with a liniment composed of equal parts of oil of turpentine and tincture of opium, will often give temporary relief—or ten grains of opium powdered, rubbed in a mortar with one ounce and a quarter of olive oil. A dessertspoonful of either should be poured into the palm of the hand, and used each time.

Slow, gentle, and equal friction, will often bring on sleep—and it is useful to know this fact—children may often thus be put to sleep. Shampooing and percussion are good substitutes for exercise, when persons are confined to their beds or couches.

MEDICINES, ANTACIDS, AND THEIR DOSES.

Liquor of potash . . .	10 drops to 30 well diluted.
Carbonate of potash .	10 grains to 30.
,, soda . .	30 ,, to 60.
Subcarbonate of ammonia	5 ,, to 10.
Sal volatile	30 drops to 60.
Chalk prepared . . .	30 grains to 120.
Magnesia	30 ,, to 60.
Carbonate of ditto . .	60 ,, to 1 ounce.
Hard soap or Spanish soap	5 grains to 30.

Chalk Mixture against Diarrhœa.

Of prepared chalk	½ oz.
Sugar	½ oz.
Gum arabic	½ oz.
Water	1 pint.

Rub the gum arabic into powder—add the chalk—then the sugar. Lastly, add the water by small quantities—in a mortar—rubbing all the while till an emulsion is formed. Tincture of opium, or of catechu, or of kino, may be added in obstinate cases. The opium for bearing down stools especially; fifteen to twenty drops of Tincture of opium for a dose. Of the other Tinctures—thirty drops for a dose.

Gregory's Powder consists

Of Powdered rhubarb	½ oz.
Calcined magnesia	1 oz.
Ginger (powdered)	½ oz.

Rub well together—and keep in a well-stoppered bottle in a dry place.

The Poor Man's Mixture for Stomach Pains and Acid with Wind.

Of Rhubarb	60 grs.
Calcined magnesia	90 grs.
Ginger (powdered)	20 grs.

Mix—and add one pint of peppermint water—and of tincture of capsicum, tincture of opium, and of spirits of sulphuric ether—of each sixty drops—a tablespoonful two or three times a day.

These medicines act chemically, by neutralizing the acid in the stomach and bowels—they are palliatives—removing the effects of disease only.

Worm Medicines

Are of three kinds—those which remove the slime of worms mechanically, and by a purgative action—those which strengthen the bowels, and so prevent the formation of slime—and those which kill the worms, as turpentine.

Calomel	5 to 10 grs.
Black sulphuret of mercury	5 to 30 „
Iron filings	2 to 60 „
Carbonate of iron	2 to 240 „
Tin filings	60 to 240 „

Tansy leaves	30 to 60 grs.
Cabbagetree bark	20 to 40 „
Assafœtida	10 to 30 „
Scammony	5 to 10 „
Rue	10 to 60 „
Spirits of turpentine	10 drops to 1 oz.
Olive oil	½ oz. to 8 oz.
Cowhage	5 grs. to 10.
Wormwood	30 „ to 60.
Carolina pink	10 „ to 40.
Male fern root	60 „ to 240.
Gamboge	2 „ to 20.
Garlic	60 „ to 120.
Camphor	3 „ to 20.
Sagapenum	10 „ to 30.

Aperients,

Or laxatives, act by unloading the bowels of offensive matter, without exerting any considerable effect on the vessels of the bowels, or on the secretions of the liver, &c. They would seem merely to stimulate the muscular fibres of the bowels, and so cause a quick expulsion of their contents.

Manna	½ oz. to 2 oz.
Cassia pulp	½ oz. to 1½ oz.
Charcoal in fœtid belchings	10 grs. to 20.
Magnesia	30 „ to 60.
Ditto carbonate of	30 „ to 120.
Sulphur	30 „ to 120.
Castor oil and seeds	½ oz. to 1 oz.
Tamarinds	1 dr. to 1 oz.
Dandelion root and herb	30 grs. to 60.
Hard soap	5 „ to 30.
Carbonate of soda	10 „ to 30.
Tartarized soda	60 „ to 1 oz.
Cream of tartar	60 „ to 1 oz.
Croton oil	½ drop to 2 drops.

They may be dropped on the tongue.

Cathartics.

Some act mildly—others more sharply—some lower the pulse, and give rise to a feeling of cold—such are saline purges—best adapted for fevers—others are more tonic,

as aloes, rhubarb, &c.—others are stimulant. Purgatives cause irritation, and lead to the formation of indigestion; by causing the secretion of hastily formed, and therefore imperfect bile, if they are too frequently taken. Exposure to cold air should be avoided, when a purgative has been taken. When saline cathartics and castor oil are given, demulcent liquids should be drunk warm—but if Epsom salts be given, give it in a small quantity of water—and in an hour afterwards, a basin of weak tea or warm gruel should be taken—which will carry down the bile flowing out of the gall ducts, which have been stimulated by the salts.

When pills have been given, diluents should not be taken, till after the first evacuation.

Cathartic Pills.—Of compound extract of colocynth, 10 grains; make into two pills. To be taken on going to bed—next morning, a seidlitz powder, or a tablespoonful of Epsom salts with some powdered or a few drops of essence of, ginger.

Croton Oil Pills.—Of croton oil, 1 drop; crumb of bread enough to make a pill—or in apoplexy, 1 or 2 drops may be dropped on the tongue, when the power of swallowing is lost.

Compound Cathartic Pills.—Of jalap powdered, and calomel, of each 45 grains; gamboge, 10 grains;—mix well—add extract of colocynth compound, 60 grains. Make into five-grain pills. Excellent for torpid liver. One pill acts mildly—three very actively.

Mercurial Cathartic Pills.—Of compound extract of colocynth, 4 grains; of calomel 1 to 2 grains; of blue pill, 3 grains. Make up two pills—to be taken at bed time. Useful when the liver is torpid and the bowels sluggish—the motions clayey.

Blue Pill.—Five grains of this, at night, for a few nights, or alternate nights, and a quickening draught in the morning—in bilious disorders.

Pills of Aloes and Myrrh.—Of socotorine aloes, ½ oz.; of saffron and of myrrh, of each 2 drachms. Make into pills, weighing five grains each. For females who have irregular or deficient periods—or have sluggish lower bowels.

Pills of Aloes with Ginger.—Of aloes, ½ oz.; powdered ginger, 1 drachm; hard soap, ½ oz.; oil of peppermint, 30 drops. Make into five-grain pills. A warm stomachic *purgative*;—or extract of gentian may be added.

Aloes and soap, in equal parts, with syrup if necessary, is a good form.

Compound Rhubarb Pills.—Of rhubarb, ½ oz.; of aloes, 3 drachms; of myrrh, ½ oz.; oil of peppermint, 30 drops. Beat into a mass with syrup of orange-peel, and make into five-grain pills. Two for a dose.

Gamboge Pills.—Of gamboge, aloes, and compound cinnamon powder, of each, 60 grains; soap ¼ oz. Make into a mass—and into five-grain pills. These are for obstinate costiveness.

Powdered jalap may be added with good effect.

Elaterium Pills.—Of elaterium, 1 grain; extract of colocynth, 20 grains. Make six pills. This often acts violently. Given in cases of dropsy.

Black Draught.—Of Epsom salts, ½ oz.; compound infusion of senna, 1½ oz.; compound tincture of cardamoms, 60 drops. Mix. To be taken in the morning.

A more active Draught.—Add to this, 1 drachm of tincture of jalap.

Cordial Aperient Tincture.—Of tincture of senna, seven parts; of wine of aloes, one part. Mix. A tablespoonful of this, at bed time, acts well next morning usually—and is fitted for gouty and cold habits. Not so well adapted where there are piles.

Aperient for those afflicted with Piles.—Of sulphur, of powdered jalap, and of cream of tartar, of each, ½ oz.; of compound cinnamon powder, 2 drachms; nitre, 1 drachm. Mix. A teaspoonful, or two or three in water, whenever necessary.

Or this:—

Of sulphur, and of tartarized soda, of each, ½ oz. To make four doses—one night and morning, till a gentle action ensues.

A pleasant Aperient.—Of carbonate of magnesia, 5 drachms; of distilled water, 16 oz. Dissolve 1 oz. of citric acid in 4 oz. of distilled water; add 2 oz. of syrup of lemons. Then mix the two together, in a strong bottle, such as is fit for holding champagne; cork over, and tie over as well. Keep the bottle in cold water, or in the cold, till wanted. A fourth or sixth part for a dose, every four or six hours, till a proper action ensues. This may be called a champagne aperient.

Manna and Epsom Salts.—Of Epsom salts, 1 oz.; manna, ½ oz.; compound infusion of senna, 7½ oz.; tincture of cardamoms, ½ oz. Mix, by rubbing the manna

gradually into the infusion. Two or three tablespoonfuls for a dose.

Baume de Vie, or Compound Decoction of Aloes.—Of liquorice root, ½ oz.; subcarbonate of potash, 40 grains; aloes, myrrh, and saffron, of each 60 grains; water, 1 pint. Boil to 12 oz., and strain; when cold add 4 oz. of tincture of cardamoms. Dose—a wineglassful once a day, in the morning, or when necessary.

An useful Aperient.—Of jalap root, 1 to 2 drachms; of compound infusion of orange peel, 6 oz. Let it stand for a few hours. Two tablespoonfuls for a dose. Epsom salts might be added, if desired.

Infusion of Senna.—Of senna leaves, 15 drachms; of ginger, bruised, 80 grains; boiling water, 1 pint. Let it stand in a covered vessel for an hour or two; then strain. The ginger corrects the griping quality of the senna.

Compound Infusion of Senna.—Of tamarinds, 1 oz.; of senna leaves, 1 drachm; coriander seeds, bruised, 30 grains; sugar, ½ oz.; boiling water, 8 oz. Let it stand on the hob, in a covered vessel not glazed with lead, for 4 hours; then strain.

Mild Aperient.—Of tartarized potash, 1 to 2 drachms; compound infusion of senna, 1 oz.; tincture of cardamoms, 1 drachm. To be taken at bedtime, or early before breakfast.

Emetics.

Emetics evacuate the contents of the stomach; but they do a great deal more—they promote sweating in fevers—they favour expectoration in disorders of the lungs—they promote absorption of the fluid in cases of dropsy—and they help, by the commotion they excite in the body, to remove obstructions in the interior of the body, as in jaundice and in torpor of the liver—they also favour the return of the periods—they allay the spasms in asthma, and check discharges of blood from either the lungs or womb; but they are best given for this latter purpose, in small doses, so as to excite a feeling of sickness, and not vomiting. In dysentery, also, emetics have been useful.

But they should not be given when there is internal inflammation—in fulness of the head and its vessels—in advanced stages of pregnancy—in persons ruptured, nor suffering from prolapse of the womb—nor in persons who have weak and delicate stomachs.

The early evening is the best time to give emetics, if a choice be left; for sleep will be grateful after the action of vomiting is over. The person should walk about, if he can, until the vomiting comes on, and then he may drink of tepid water to encourage the vomiting and render it easy; but too much water must not be drunk, or the stomach will be over distended.

Ipecacuanha	10 to 30 grs.
Sulphate of copper	½ to 5 grs.
Sulphate of zinc	10 to 30 grs.
Tartarized antimony	½ to 3 grs.

Best Emetic.—Of powder of ipecacuan, 20 grains; tartarized antimony, 1 grain. Mix.

Cordials, Stimulants, and Tonics.

Stimulants rouse the energy of the system, and support the drooping powers of life; tonics, also, counteract debility, and give strength and energy to the moving fibres, but do not stimulate materially.

Stimulants.

Arnica	5 to 10 grs.
Horseradish	20 to 60 grs.
Ammonia	5 to 20 grs.
Assafœtida	10 to 30 grs.
Camphor	5 to 30 grs.
Cantharides	½ to 3 grs.
Wine, capsicum, cloves, cinnamon; doses need not be specified.	
Musk	3 to 30 grs.
Nutmeg	5 to 15 grs.
Pimenta and pepper, according to taste.	
Mustard	60 to 240 grs.
Valerian	30 to 120 grs.
Ginger	30 grs. to a teaspoonful
Ether	30 to 120 drops.

Strong Camphor Mixture.—Of camphor, 25 grains; spirits of wine, 5 drops; rub; add gum arabic powdered, half an ounce; lemon juice, half an ounce; water, or mint water, 7½ ounces. Mix. 2 tablespoonfuls for a dose.

Others make it thus:—Of camphor, 12 grains; carbonate of magnesia, 30 grains; rub together, and gradually add 6 ounces of water.

Or this:—Camphor, 60 grains; carbonate of magnesia, a quarter of an ounce; rub, and add water, 1 pint.

Cordial Mixture for Colic, Looseness of Bowels, and Pain in the Stomach.—Of aromatic confection, 180 grains; sal volatile, half an ounce; tincture of ginger, 120 drops; oil of peppermint, 5 drops; spirits of wine, 30 drops; syrup of orange peel, half an ounce; of pure water, 12 ounces; add tincture of cardamoms, half an ounce; of catechu, 120 drops; cinnamon, 120 drops; opium, 60 drops. Two tablespoonfuls for a dose. The oil is to be mixed with the spirits of wine first; the confection to be mixed with water gradually.

Camphor Julep.—Put a small bit of camphor into a pint of distilled water.

Stimulant Mixture.—Of carbonate of ammonia, 30 grains; camphor mixture, 7 ounces; syrup, or of syrup of orange peel, 1 ounce. 2 tablespoonfuls for a dose, 2 or 3 times a day.

Half an ounce of sulphuric ether may be added to this mixture, to increase the stimulant power.

Brandy Mixture (a cordial support).—Of brandy and cinnamon water, of each, 4 ounces; the whites of 2 raw eggs; sugar, half an ounce; oil of cinnamon, 2 drops. Mix.

This is useful in the exhaustion of low fevers, and in great debility.

Tonics.

The bitters—gentian, calumba, quassia, angustura, quinine, hop, oxide of zinc, sulphate of zinc, various preparations of iron. These are the most used.

Infusion of Calumba.—Of calumba root, cut into small pieces, quarter of an ounce; boiling water, 8 ounces. Let the whole stand for 2 hours or more on the hob, in a covered vessel; and strain. A wineglassful twice or thrice a day.

Infusion of Chamomile.—Of chamomile flowers, quarter of an ounce; boiling water, half a pint. Let it stand as the foregoing. This is used cold, in stomach complaints. In doses like those of calumba, it is drunk warm, either alone

to excite gentle vomiting, or to assist the operation of other emetics.

Compound Infusion of Gentian.—Of gentian root, cut small; of dried orange peel; of each, 60 grains; lemon peel, 2 drachms; boiling water, 13 oz. Let it stand like the calumba. Given in indigestion; and wherever tonics are wanting, alkalies or acids may be added; 20 or 25 grains of the former to each dose, or 10 drops of the dilute nitric acid.

Compound Infusion of Orange Peel.—Of dried orange peel, ¼ oz.; of recent lemon peel, 60 grains; of cloves, bruised, 30 grains; boiling water, 8 oz. Let it stand for 15 up to 60 minutes in a covered vessel; when cold, strain.

Infusion of Cloves.—Of bruised cloves, 60 grains; boiling water, 8 oz. Let it stand like the preceding, for 2 hours, and strain.

Stimulant—tonic and stomachic.

Infusion of Cascarilla.—Of cascarilla root bruised, ½ oz.; boiling water, 8 oz.; prepare as before.

Infusion of Peruvian Bark.—Of pale Peruvian bark, bruised, ½ oz.; boiling water, 8 oz. Let it stand for 2 hours, and strain.

In indigestion, and in convalescence; it is chiefly used as a vehicle.

Infusion of Angustura Bark.—Of bruised angustura bark, ¼ oz.; boiling water, 8 oz. Prepare as before.

Compound Infusion of Mint.—Of dried mint leaves, ¼ oz.; boiling water, 8 to 10 oz. Boil, so as to strain off, 6 oz. When cold, strain, and add of white sugar, ¼ oz.; oil of mint, 3 drops; dissolved in ½ oz. of tincture of cardamoms. Mix.

Infusion of Quassia.—Of quassia wood, cut small, 30 grains; of boiling water, 8 oz. Let the fluid stand for 2 hours, then strain.

A very pure bitter; useful in several disorders; in bilious fevers, united with the carbonates of potash or soda, 20 or 30 grains to each dose; in hysterics, camphor and tincture of valerian must be added; in gout, with aromatics and ginger; and in indigestion, united with 1 or 2 grains of sulphate of zinc, or with 8 or 10 drops of the mineral acids.

Infusion of Valerian.—Of valerian root, bruised and rubbed into a thick powder, ¼ oz.; of boiling water, 8 oz. Let it stand for an hour, and strain.

In hysteria, 3 or 4 tablespoonfuls, 2 or 3 times a day; and the stomach will often bear Valerian in this form, which it would not in any other.

Quinine Mixture.—Of infusion of gentian or of orange peel, 7½ oz.; sulphate of quinine, 8 grains to 20; dilute sulphuric acid, 40 drops; tincture of cardamoms, or of calumba, 2 drachms. An eighth part 2 or 3 times a day. This is often given in agues; and it may be given also in

Infusion of Roses.—Of dried petals of the red rose, ½ oz.; boiling water, 2½ pints; dilute sulphuric acid, 3 drachms; sugar, 1½ oz. Pour the water on the rose leaves; add the acid; let it stand in a glass vessel for half an hour, or an hour; strain, and add the sugar.

This and the dilute sulphuric acid, check and stop excessive and exhausting sweats. *See* CONSUMPTION.

Dilute sulphuric acid is made by adding to 1½ oz. of the strong acid, 14½ oz. of distilled water; 10 to 30 drops are a dose.

Dilute muriatic acid is made by diluting the strong acid with equal quantity of distilled water, and dilute nitric acid by 1 oz. of strong acid to 9 oz. of distilled water.

All these acids are tonics—the last especially—in fevers for drink—in bilious ailments—indigestion, &c.—10 to 20 drops.

Compound Wine of Quinine.—Of sulphate of quinine, 20 grains; of citric acid, 10 grains; distilled water, 1 oz. Mix and dissolve; then add of good orange wine, 19 oz. A clear solution is formed; 2 tablespoonfuls for a dose, 2 or 3 times a day.

DILUENTS.

These increase the proportion of fluids in the system—and this can only be done by watery liquors. Water is the only diluent. Many medicines are given in certain diluents—but many of these diluents have been mentioned in the first section—as barley water, toast water, &c. &c.

DIURETICS.

These augment the secretion of urine—and probably *act by stimulating* the secreting vessels of the kidneys—

the saline diuretics seem to act in this manner, being received into the circulation, and passing off through the kidneys. Diuretics separate the watery part of the blood, and thus they may promote absorption over the entire body. They are very efficacious in dropsy—and when they are efficacious, they afford us the best way of removing dropsical fluid.

But diuretics may often help us in other disorders—as in gravel and stone—they may diminish fulness of vessels, and check profuse perspiration. The chief diuretics which a non-professional person may use are—the acetate of potash (a very valuable remedy in many diseases)—dose, 20 grains to 40; cream of tartar, 1 drachm to 8; carbonate of potash, 10 to 30 grains; nitrate of potash, 5 to 10 grains; the carbonate of soda, 10 to 30 grains; sweet spirits of nitre, 30 drops to 2 drachms. This last is also very useful—broom tops, 10 grains to 60. Digitalis, and various other diuretics, should only be taken under a medical man's superintendence.

Forms of diuretic medicines:—

Infusion of Horseradish root.—Of horseradish sliced, and mustard seed bruised, of each, 1 oz.; compound spirit of horseradish, 1 oz.; boiling water, (distilled), a pint. Put the root and seeds in the water for 2 hours in a covered vessel, and strain; then add the spirit when cold. Dose—2 to 4 tablespoonfuls 3 times a day—in dropsies, with debility, and after agues—also in palsy. The acetate of potash, 30 grains to each dose—or from 30 to 60 drops of sweet spirits of nitre may be added.

Diuretic Pills.—Of blue pill, 30 grains; compound squill pill, 60 grains. Make into 20 or 24 pills. Two every night—but the gums must be watched, so as to avoid a sore mouth. Stop as soon as the gums redden or swell, or there is a taste or smell in the mouth. During the administration of diuretics, keep the body cool; and exercise, and drinking pretty freely of water and diluents, will help.

Diaphoretics, Sudorifics, or Sweat Promoters.

These medicines increase the discharge by the skin, and so lower both fever and inflammation. The two first words have a similar meaning, only differing in the degree

of the effects produced—the first merely bringing gentle perspiration on a dry, feverish skin—the second, exciting sweating.

To produce their effect, the free drinking of tepid drinks or diluents, should be encouraged—and confinement to bed, is usually essential—or else lying down, covered by light blankets—for heavy blankets or coverings may rather check perspiration, than promote it. The patient's shirt should be also of flannel or calico—no cold drinks, nor acid drinks, are to be allowed.

When the person has perspired long enough, or we wish to check it, caution is necessary—removal from the damp bed, covering with a dry blanket, and drying with soft, warm towels, are to be looked to—avoiding all draughts or admission of cold air.

The real James's powder is one of the best diaphoretics we can employ; or failing that, we may give small doses of tartar emetic, 1 grain of which may be dissolved in 8 ounces of distilled water, with some sugar (to taste); and one tablespoonful given every 4 hours. A slight feeling of sickness may come on first, and then the perspiration. 5 to 10 grains of nitre might be added to each dose; but in typhoid fever, these antimonials are too debilitating, and can in such cases, only be given while the strength remains unimpaired, or while the fever is high.

Another useful remedy is the liquor of acetate of ammonia. This is made by adding to 30 grains of carbonate of ammonia 2 ounces of acetic acid, or 1 ounce to 15 grains of ammonia. The dose of this, is 1 or 2 drachms—60 to 120 drops every third or fourth hour, with syrup of orange-peel or simple syrup; and nitre may be added to each dose of this, as in the preceding case.

Some give carbonate of soda or potash, 30 grains, with tartaric or citric acid, or lemon-juice, enough to prevent any effervescence—then add syrup—and the ounce or ounce and a half of vehicle may be either camphor mixture, or mint, or peppermint, or plain water.

When there is much pain, 15 to 20 drops of tincture of opium might be added, at bedtime chiefly.

Another Draught.—Of carbonate of ammonia, 10 grains; of lemon-juice, 2 drachms; of syrup, 60 drops; water, or mint water, an ounce.

Guaiacum Draught.—Of resin of guaiacum, 10 grains, of Dover's powder, 5 grains; of tartar emetic, one eighth

of a grain; of syrup, 1 drachm; of water, 1 ounce. In acute rheumatism. But if we give this often during the day, the dose of Dover's powder should be 2 grains only.

Alteratives.

These medicines act slowly, and are meant to effect a gradual change in any morbid or faulty secretion, or in fevers, or inflammations. The best of all is the form of powders, recommended in the Fourth Section, against inflammations, especially of the chest and some inward parts. Where the lancet cannot be efficiently employed, these powders must form the emigrant's reliance.

Powders against Inflammations, and some Fevers.—Of calomel, 32 grains to 64; of tartar emetic, 1 grain; rub these very well together, then add of powdered tragacanth or gum arabic, 60 or 80 grains. Mix again by thoroughly rubbing in a mortar. Then divide into 16 powders. One every 3 or 4 hours, until a coppery taste, or swelled or reddened gums, begin to appear; then stop, and give a gargle of tincture of myrrh, with alum or borax, and syrup, or honey and water.

If these calomel powders cause purging, add powder of chalk and opium 2 grains, or else one quarter of a grain of opium to each dose.

If the inflammation is in an organ essential to life, such as the brain, or lungs, or is violent in degree, give the 4-grain powders every 3 hours; so as to affect the gums as soon as possible, only taking care to prevent salivation to a great extent. Take care to avoid cold air, or cold or damp, while the person is taking or feeling the effects of these powders.

After salivation, besides a gargle, we should give an ounce of bitter infusion of calumba, with an ounce of camphor mixture, and 20 drops of sal volatile, 2 or three times a day, after the inflammation is gone—not before.

Another Alterative Powder.—Of metallic Mercury and of levigated (rubbed into powder) Antimony, of each, 1 ounce; of Sulphur, half an ounce—mix. Of this, 15 to 20 grains is a dose, 2 or 3 times a day; and it is given in many eruptions of the skin, of a chronic nature, not attended with fever.

The grey powder, which consists of metallic mercury,

3 ounces rubbed together with 5 ounces of prepared chalk, until the globules have all disappeared, is also an alterative.

Other alteratives, at least such as are called alterative, may be mentioned; but it would not be practically useful to do so.

Narcotics and Anodynes.

These are remedies which diminish sensibility and irritability; abate pain: and induce sleep, or sometimes a sort of stupor.

The chief of these are—Opium, powdered, half a grain to 1 or more; or the Acetate or Hydrochlorate of Morphia—of the Acetate, ⅛ to ½ grain; of the other, ¼ to ½ grain for a dose; Henbane (tincture of), 20 to 60 drops; Tincture of Opium, 15 to 40 drops; tincture of the seeds of Meadow saffron; Belladonna (dangerous), and Aconite (also dangerous, except under proper care). Compound powder of Chalk, with opium, contains 1 grain of Opium in 40, so 20 to 30 grains is the dose. Dover's powder contains 1 grain of opium in 10; and 5 grains is the dose.

Against Gout especially, and the pains of Rheumatism, the tincture of Meadow saffron is very useful. Take of the seeds of Meadow saffron, half an ounce; bruise them, and put them into 4 ounces of spirits of wine. Let it stand 10 or 14 days, then strain. 20 drops 8 times a day, with 20 or 30 grains of carbonate of Potash or Soda. Watch the effects; and as soon as depression of spirits, or relaxing sweats, or looseness of the bowels come on, discontinue. To be given in water 2 or 3 times a day.

Tincture of Opium is made, by cutting 1 ounce of crude opium into small pieces, and putting them into 16 ounces of proof spirits of wine. Let the liquid stand for 10 or 14 days, shaking often; then strain for use.

These are all which the traveller or emigrant need possess.

Antispasmodics

Allay inordinate muscular action and violent pain, without exciting insensibility, sleep, or stupor; as narcotics sometimes do.

Ether (Sulphuric), 30 drops to 60; Musk, 1 grain to 60;

Liquor of Ammonia, 10 to 15 drops; Assafœtida, 5 to 20 grains; Carbonate of Ammonia, 5 to 20 grains; Galbanum, 10 to 30 grains; Sagapenum, 10 to 30 grains; Valerian, 20 to 40 grains; Camphor, 1 to 20 grains; Cajeput oil, 1 drop to 5.

These medicines are serviceable in cases of hysteria, and in disorders affecting chiefly the nervous system, as St. Vitus's dance, &c. &c.

Astringents

Corrugate the parts to which they are applied. They are used both internally and externally in bleedings, discharges, in fluxes, in whites, &c.

Dilute Sulphuric acid, 5 drops to 30; Alum, 10 grains to 20; Sulphate of Zinc, 1 to 20 grains; Sulphate of Iron, 1 to 5 grains; Sulphate of Copper, quarter of a grain to 2 grains; Sugar of Lead, half to 2 grains; Extract of Catechu, 10 to 20 grains; Kino, 10 to 60 grains; Logwood (extract), 10 to 30 grains; Oak bark, 10 to 30 grains; Galls, 2 to 10 grains; Lime water, 2 ounces to 8 ounces; Whortleberry leaves, 10 to 60; Bistort root, 10 to 60 grains; Pomegranate bark, 20 to 60 grains; Tormentil, of the decoction, ½ ounce to 1½ ounce.

Infusion of Buchu Leaves.—Of buchu leaves, 1 ounce; boiling water, 1 pint; to stand for 4 hours, then strain. 3 or 4 tablespoonfuls 2 or 3 times a day, in diarrhœa, dysentery, &c. A light tonic, slightly diuretic, and warmly aromatic; from the volatile oil in the glands of the leaves.

Decoction of Whortleberry.—Of Whortleberry leaves, 1 ounce; water (distilled), a pint and a half; boil down to a pint, and strain. Half ounce to 2 ounces 2 or 3 times a day; in affections of the urinary organs, and in exhaustion from discharges from those organs.

Infusion of Pareira.—Of Pareira, ½ oz.; of boiling water, 9 oz. Let it stand for two hours, and strain; 2, 3, or 4 tablespoonfuls, twice or thrice daily—in irritation of the bladder, with discharge from it: in catarrh, too—tonic slightly and diuretic.

Infusion of Rhatany.—Of Rhatany, 1 oz.; boiling water, 1 pint. After four hours, strain. Tonic and astringent. In diarrhœa, and as a gargle in relaxed throat.

Compound Infusion of Catechu.—Of Catechu, ½ oz.;

bruised Cinnamon, 1 drachm; boiling water, 1 pint. After two hours, strain. Two to four tablespoonfuls after every loose stool, in diarrhœa, or every three or four hours.

Compound Infusion of Linseed.—Linseed, bruised, ½ oz.; Liquorice root, bruised, ½ oz.; boiling water, 1 pint. After four hours in a gentle heat, strain. A teacupful, occasionally, in catarrhs, coughs, difficulty in making water, and in irritability of the bladder.

Decoction of Liverwort.—Of Liverwort, 5 drachms; distilled water, 1½ pint; boil to 1 pint and strain. Half an oz. to 2 oz., two or three times a day. In coughs, consumption, loss of flesh, hooping-cough. If we want to destroy the bitter taste, steep the liverwort in several waters, adding to each, ten grains of carbonate of potash, before boiling. But some object to depriving it of its bitterness. This decoction possesses some nutritive powers.

Decoction of Sarsaparilla.—Of Sarsaparilla, 1½ oz.; boiling water, 1 pint: boil to half a pint. Of Sassafras, Guaiacum, and Liquorice root, of each ½ oz.; Mezereon, 60 grains; boil 15 minutes and strain. In chronic rheumatism, leprosy, some liver affections—two tablespoonfuls, or three or four, two or three times a day.

DIRECTIONS AND ADVICE TO EMIGRANTS.

It does not fall within the writer's object, to advise emigrants as to what country they should select. The different countries which are chosen for emigration are so constantly varying, and one country may be so much better adapted to the circumstances and objects of one emigrant than of another, that it would only mislead to give any other than general advice to emigrants—which shall be more or less applicable and useful, in all probable situations.

And first of the voyage, which may be calculated on as occupying about four months. The outfit is generally allowed to swallow up many a shilling, which might be spared—and many an old article of clothing has been thrown aside, which would have been very useful; besides sparing the expense of buying new. Nothing but what is indispensable should be taken, on account of the dearness of transport when arrived in the colony. For a family party, a few things extra might be allowed—such as a folding-stool or chair: a small bell tent would be useful, and this might have a small lining, to fix on the same pole, about three inches below its upper end, and two within the outer canvas, joining this latter at the bottom. This addition would add little to the weight, and give the tent many of the advantages of a marquee—protecting better from the weather, and from the heat. And, wherever the tent is fixed, let the emigrant remember to dig a trench all round the tent-pegs, in case of heavy rains. The chest will answer for table.

Workmen will of course take their tools with them.

In selecting a ship, if it is not one chartered by the Government, the tonnage should not be under 500, or it becomes too small for comfort—the height between decks should not be less than six feet; and if it is A 1 on Lloyd's register—which may be seen by any one at Lloyd's—so much the better. If it is rated below the red diphthong, Æ, it should be rejected for a passage. The tonnage of ships is of two kinds—tons register and tons burthen.—Choose ships with tonnage advertised as tons register; for these apply to live freight—tons burthen is a term which applies to coals, ore, and bulk.

Each berth, too, should have a scuttling opening into it—for ventilation; and, if possible, the nature of the cargo should be ascertained; nor should the fuel be what is called the patent fuel, for that has been proved to be unwholesome.

Any of the Guide-books for Emigrants—or the Colonization Circulars, sold at Mr. Knight's, 90, Fleet-street, for 3*d.*,—will show what the allowance per day, ought to be for each passenger.

If the ship's owners are respectable, the passenger will have the best guarantee, that all will be properly attended to—respecting the diet, and everything else.

The clothing should be nearly the same as in England—but if the chosen country is a cold one, more warm clothes should be taken, than if going to a warm one. A good pilot coat, with waterproof cape and sleeves, will always be useful—even in Australia, where the nights are often cold, and rains are heavy; and a waterproof rug or cloth, to put under the bed. Woollen and cotton stockings are both necessary, and one or two blankets are of the greatest comfort—so are flannel shirts and drawers. *If these last were worn more generally than they are, they would prevent many an attack of dysentery.* During cool evenings, and after sweating, they afford the greatest possible protection from dysentery and other diseases.

Many a man works hard, and perspires freely; then, after his work, he cools himself rapidly, while in a state approaching that of fatigue or exhaustion: that is the time of danger, and then flannel should be worn, even although it may feel uncomfortable at first. A captain of a man-of-war preserved the health of his crew, in the West Indies, chiefly by making them wear flannel in the evenings.

The list of articles for males is settled by Government to be *on the lowest scale*—six shirts—six pairs of stockings—two pairs of shoes (not India-rubber)—two suits of exterior clothing, with towels and soap. For females: six shifts—two flannel petticoats—six pairs stockings—two pairs shoes—two gowns—towels and soap—but for comfort this list will be found very scanty—and they require a deposit of £1 or £2, for the loan of a mattress, bolster, blankets, counterpane, canvas bag, knife, fork, and drinking-mug. These, or some of them, are given to those emigrants who have behaved well, on arriving in the colony.

Some marine soap should be taken—so as to wash on *board—especially* if the emigrant take but few clothes with

him. And before the ship sails, he should take a yard or two of list, a hammer, and a few nails, on board; and fix some nails up in his berth, so as to hang bags, &c., upon them.

All trunks, &c., which are to be used on the voyage should be marked, "For Cabin use," or, "Wanted on the Voyage;" and they should have handles or cordage on them. They should be fixed in the berth.

A written engagement is recommended to be made with the ship-broker, specifying all particulars—the day of sailing especially—for many an emigrant has been delayed, and put to much expense at inns, &c., before the ship has actually sailed: and the ship should be visited before any luggage is sent on board, to see that all is as per agreement.

For cabin use, a strong bag (of leather, if possible) is useful; or else one or two small boxes, with handles or loops of strong cordage—so as to be fixed to the partitions—for at sea everything may else be rolling about.

Much may be done to promote comfort, by these previous arrangements. The table and drinking articles may all be made to hang up, on loops of list, fastened by nails; as many of the men-of-war's messes are used to do.

A pair of strong slippers, or shoes without heels, should be provided, for use on board; and two caps, not hats.

Extra stores may be taken—pickles (a pot of pickled cabbage might be prepared,) potted herrings, anchovies, some tea and sugar, and a bottle of good lime-juice: a little soda and tartaric acid, for frothing powders, to allay thirst (*see* LIST OF MEDICINES TO BE TAKEN); and a few provisions, for the first day's consumption on board, while all is in confusion in the ship for a short time.

It must not be forgotten that cabin articles are sometimes charged as luggage: this should be avoided.

On the voyage, it would be very conducive to health if the passengers were to have a daily shower-bath of sea-water; which can be done by pouring the contents of a jug of water into an old colander, held over the back of the body; so as to sluice the chest and body, and then wiped dry. This adds to comfort and to health.

Thirst is much complained of, on passing through the hot latitudes; and as drinking-water may be scarce, it must be slaked by rinsing and washing the mouth often, without swallowing great draughts of water.

Lastly, every passenger should bear in mind, that hav-

mony depends on every individual, being resolved to take everything in good humour, Good temper, good nature, and a quiet tongue, are three grand requisites—and if one quarrelsome person should excite disturbance, he should be put to Coventry, or made to feel that he must not disturb the general peace and enjoyment.

Climates of various Emigration Fields.

The Australian climate has been alluded to in the article on Climate; and it will there be seen that provision must be made, rather against cold and wet, than against tropical heat.

The diseases prevailing there chiefly are—ophthalmia or inflammation of the eyes, and dysentery. Against the former, a pair of metal goggles, with side flaps, should be taken, and the holes should be small. These will protect the eyes, if constantly worn, in a dazzling sunshine or in clouds of dust. Against dysentery, flannel is the effective protector—and a band of flannel should at least be worn around the stomach—the coarser the flannel the better.

But in all climates, one grand predisposing cause is in too frequent operation, and slays its thousands, probably. It is intemperance of any kind—above all, of drink. Let no one who is addicted to drink, or who cannot conquer the destructive habit, think of doing well by emigrating. Sobriety is of greater consequence to the poor emigrant, than it is at home in England. Drink will not only drain his pockets, but infallibly, sooner or later, destroy his health—and with it, every hope of success. A man may, and can labour hard, and yet require no drink of spirits, or of wine. The drunkard not only will never save money, but he will soon be unable to earn any.

The climate of *New South Wales* is healthy enough to the sober and careful. It varies, of course, in different parts.

At *Sydney*, the medium temperature in the coldest month was 52°—in the hottest, of 75½°—and there are about 210 days of fine weather, to about 125 of rain.

In *Victoria*, the climate is rather cooler than in New South Wales, and South Australia—but warmer than in Van Diemen's Land. It is similar to that of Montpellier *in winter*, and of Naples in summer; 98° being rarely

exceeded, or freezing point during the cold weather. The fall of rain averages 30 inches.

South Australia.—The weather is agreeable for nine or ten months of the year. The winter is a rainy season, like a wet summer in England. The heat is oppressive during December, January, and February. At Adelaide, the highest degree was 105—the lowest, 44—and the average, 67. Rainy days numbered 115.

Western Australia is healthy, and subject to little drought, from the prevalence of westerly winds.

The climate of *Van Diemen's Land* is very healthy.

New Zealand in climate, resembles England—but it has not the easterly winds, cold, fog, and snow, of England, in the months of November to March. The winter is wet, but not colder than an English April, or October. There are high winds—but these are not unfavourable to health. The days are an hour shorter in the summer, and an hour longer in winter than in England. There is little or no twilight.

Complaints of the eyes are common—and those who have weak eyes should not choose New Zealand.

Canada.—309 fine days and 56 of rain or snow in Eastern Canada, and 276 fine days with 89 of rain or snow in Western Canada. In Eastern Canada, the air is very dry; and there are no prevalent diseases. For an agriculturist, either Eastern or Western Canada offers many attractions. All grains and fruits grow well, and labour is well remunerated. The possessor of £400 or £500 ought to do well in Canada.

Nova Scotia.—The climate is milder than in either Canada, and the heat in summer is not so great—but the weather is more changeable and foggy.

New Brunswick.—The winters are severe—yet the climate is healthy. The city of St. John, in the Bay of Fundy, is subject to dense sea fogs—but the air is very dry and bracing in that part, which is within the Gulf of St. Lawrence.

The Cape of Good Hope.—The winter and spring months are the most agreeable—but the summer heat is oppressive though not unhealthy. The climates of the eastern and western districts vary.

America differs so materially in climate in different parts of it, and the details would be so voluminous, that

the reader had better consult a book on that country exclusively.

The Falkland Islands.—The climate is reported as very healthy. The temperature in summer ranges from 45° to 70°—in winter from 30° to 50°.

Hong Kong has been hitherto considered very unhealthy—but it is said that with common precautions, and the disuse of ground floor dwellings, this place will become as healthy as most other places in the world.

For more particulars—for the adaptation of different countries to the varying objects and circumstances of each emigrant—the prices, demand for labour, wages, &c. —and with respect to the capabilities of profit, to the prices of land, and the mode of managing it—together with most useful advice on almost every conceivable point affecting the safety and welfare of the emigrant—the rules respecting passages, &c. &c.—the reader is referred to the *Colonization Circular*, dated May 1, 1854; published by order of the Government, and sold at Knight's, 90, Fleet-street.

But wherever the emigrant fixes, he should try to buy or rent land which is cleared—for clearing land is always dangerous. Agues, fevers, &c., are likely to ensue; even when considerable precautions are taken.

The labouring emigrant should likewise avoid labouring early in the morning, on an empty stomach—he should take some tea or coffee, with meat, bread, or bacon, before going out—especially in aguish or feverish districts—for morning and evening are the times, in which the bad air lies low upon the ground, and is endowed with most power to produce injurious effects on the constitution. *See* the First Section, where MALARIA is described.

No forethought—no trouble can be thrown away, which are devoted to prevent disease—the health once impaired, may not easily be re-established—and without health, nothing can be done.

Whenever the emigrant can choose his site, he should avoid low, swampy grounds—especially for fixing his house or tent—clayey soils, and alluvial earth in the bottom of valleys are dangerous, particularly if exposed to the rays of the sun in a hot country—pools and ditches containing stagnant water—rice grounds, and all marshy surfaces, which are at times covered with water, and then *left dry, while* a hot sun is causing rapid evaporation from

them, are very productive of fevers—both continued and intermittent. Refer to Malaria in the INDEX.

Those who are robust and of a plethoric (full) habit of body, are often able to resist these influences which cause ague, for a longer time than those who are weak and debilitated: but when to the usual marsh miasms, are added the effluvia of decayed animal substances, the former persons seem to be more susceptible, and are sooner attacked by continued fever—often of a fatal kind—than the latter. Wherefore they should be careful to avoid a too stimulating mode of life—while those, who are of weak and feeble habit, should keep up strength and power, by a generous mode of living, though a simple one.

A daily pill of one grain or two grains of quinine during Spring and Autumn, or while fever is prevalent, would help to protect from ague and from fever—and all who are living in aguish situations should not neglect to take this precaution—at the same time avoiding everything that would lower the vital powers.

If any one has been exposed to infection, and feels chilly or a loss of appetite—as if about to be attacked with fever—the attack might be averted sometimes by an emetic, or by a warm aperient, and going to bed—followed by wine or brandy and water, or by quinine in camphor julep, &c., taken every four hours, until a perspiration breaks forth; when all danger of suffering from a tedious fever is at an end. Fever may thus be often arrested during the stage of invasion, or up to the beginning of the state of hot skin, thirst, and of what is called high or burning fever; but when once this period of reaction is attained, the fever will take its course; and all that then can be done, is to guide it to a safe termination; by moderating too much action, or by gently supporting the strength not so as to stimulate, when there is too little.

Inflammation of the eyes, which disqualifies for work, and may end in loss of sight, is to be guarded against, by wearing always, or when working in, or exposed to the sun's glare—or to clouds of dust, the fine wire-gauze goggles already mentioned; and dysentery, which is another scourge of the emigrant, is to be kept off, by flannel worn round the abdomen and loins.

In all cases, and in all countries, the diet should be simple, yet nutritious—and intemperance of every kind must be avoided. Every act of drunkenness may be considered

as verifying the old saying, of putting an additional nail into one's coffin.

This is the one debasing and brutalising habit, which, more than any other, will ruin the emigrant's best hopes and prospects—which will not only prevent him from rising in life's social scale; but will gradually lower him until he is a lost and ruined man—both in body and soul: this is a habit of intoxication—a habit which in many of the lower classes, is begun early in life, and never left off except in some rare instances.

Amongst other evils, it is the cause of an appalling and fatal disease, called Delirium Tremens, which is thus described.

It begins with lassitude, general indisposition, a feeling of distress at pit of stomach—a want of appetite; nausea and vomiting; giddiness; *want of sleep*; anxious countenance; and *tremor of the hands*.

In a day or two the countenance shows alarm and suspicion; the eyes are cast about, or fixed in a singular manner; the trembling of the hands increases; irritability comes on, with restlessness. And now, the miserable victim becomes loquacious—says he is very well, though he is tormented with thick-coming fancies, and visions of dogs, of cats, of snakes, rats, mice, insects, and vermin crawling over him, or over his bed—or else he fancies people are coming to rob him, &c. To avoid these illusions—he calls for aid, or tries to escape by door or window—is greatly agitated, vociferates, raves, and threatens. He is never at rest, cannot bear contradiction, and sometimes becomes furiously delirious.

The pulse varies in these attacks—it may be, in first attacks, and in young, full-blooded subjects, hard, full, and frequent; but it is usually soft, full, and quick, without strength. The skin is of its natural temperature, though constantly perspiring—the tongue is humid, and covered with a white fur—and the bowels are torpid. There is a thirst, demanding cold drinks, constantly.

These attacks vary much—some may be slight, and marked by tremors of the hands, threatenings of delirium, illusions, and want of sleep—which pass off in a day or two—in others, these symptoms may continue longer, for six or seven days, or longer, and be more severe—while, in the worst cases, there may be ungovernable mania. And if *the attack* continues above a month—the mind may be-

come permanently alienated; in full habits, convulsions, or supervening apoplexy have proved fatal.

The author has attended several cases occurring in the same person, and he has seldom witnessed recovery from the third attack. Many a young man has been carried off, before he had attained his thirtieth year, by this fell destroyer; and those who have suffered from disease of liver, or of other parts, have little chance of escape. He has seen it in sailors, who have, it may be, not long returned from a voyage—have been ever since almost living in a grog-shop, and eating little or nothing of solid food for days together; and who, notwithstanding a good constitution, and an age almost youthful, are reduced to a state truly awful to behold. These thoughtless men are unintentional suicides.

Causes.—Intoxication, occasional or habitual—sudden abstinence from drink—mental exhaustion from anxiety or study—great losses of blood. The male sex and summer season predispose.

Treatment.—To procure sleep is the grand indication; and many a doctor says of such patients, they must either sleep or die.

There may be some cases of full habits, and first attacks, which threaten apoplexy; where some blood might be taken away by lancet, cupping, or leeches; but all depletions are badly borne in almost all cases.

The author tries to get the bowels cleared of any irritating, foul secretions, by castor oil and lavements; and he then gives opium as the sheet-anchor. This is a good form:—

Of Carbonate of ammonia . . . 5 to 10 grs.
Tincture of opium . . . . . 30 to 60 drops.
Water, or of camphor julep . . 1 oz. Mix.

Every 3 or 4 hours, until sleep comes on.

Others give a grain of opium every hour, and some have given 4 grains every 2 hours. From 20 to 30 grains have been swallowed in some cases, before sleep came on. The smaller doses should be begun with.

The diet must be light and unirritating—animal broths, for instance. Some give drinks of spirits to keep up the stimulus; this, the author deems unnecessary where we are giving ammonia, camphor, and opium.

One eminent physician advises us to clear the bowels first, then to give 3 grains of solid opium; and in 2 or 3 hours, if no sleep ensue, give 1 grain every hour till the

patient sleeps; but all rely on opium. It may also be administered in lavements.

Cold lotions to head may be applied, if the head is hot.

We must take care not to mistake this disease—which probably consists in a state of nervous irritation and exhaustion—for an attack of inflamed brain—for then, we should bleed, purge, leech, and lower the man speedily into his grave.

Delirium tremens is characterized by full, soft pulse; by a tongue moist and creamy—by a sweating skin—by a pale countenance—by tremors or tremblings — and by peculiar illusions and delirium. Inflammation of the brain is attended with very different symptoms.

The two chief dangers to life from disease, may be comprised under inflammations and fevers; and should a person be seized with pain anywhere,—say in the right side, about the middle of the ribs, the great point to ascertain will be whether it is a symptom of inflammation of the chest—if it is, there is no time to lose, and the most energetic means must be resorted to.

How then is inflammation of the internal organs to be ascertained by the non-medical person?

We shall always find it accompanied with fever, which arises not long after the pain has commenced,—viz., white tongue—quick pulse, &c., and by disturbance of the function of the part affected. For example, the pain in the ribs is accompanied by fever symptoms, and by difficulty of breathing—increase of pain on breathing—perhaps cough, and expectoration. Again, if there is pain in the head, as a sign of inflamed brain, we shall have thirst, hot skin, quick pulse, and the other signs of fever, mixed up with red ferrety eyes, delirium, or other signs of disturbed function of the brain. Common headache is not usually attended with fever.

So of inflammation of other parts, the situation of the pain, and the presence of fever symptoms, together with those of disturbed function of the part, give warning of inflammation.

In such cases, medical men use the lancet more or less freely, according to the organ inflamed, the intensity of the inflammation, and the state of the patient, as to strength; but as this cannot be done by emigrants, nor by any one who is not professionally educated, they must rely on the powders, which have been here called powders against inflammation and fevers; consisting of calomel, *two or three* grains each, and one sixteenth of the grain

of tartar emetic. These powders must be given every three or four hours, till the gums are becoming tender or sore or swelled. If they purge, the looseness must not be stopped. The diet must be low, so long as the inflammation continues.

It is true, a sore mouth may result, but then the powders may have prevented lots of life.

The reader is referred to each article for instructions as to treatment, in Sections IV., V. and VI. See also INDEX.

The medicines, &c., which an emigrant ought to take with him, must be regulated by his pocket—though a very few, and at a trifling expense, may prove sufficient to save many lives.

A small box of apothecary's weights and scales would be useful—and one of these would cost one and sixpence, or one and ninepence—and a small pestle and mortar—a palette knife and filtering funnel; but all except the weights and scales might be dispensed with. The indispensable articles are marked thus *.

* Epsom salts—one pound.

* Tartar emetic—thirty grains.

* Powdered Opium—also Tincture of Opium.

* Sugar of Lead—to make Goulard water, and to give internally in certain cases.

* Sulphate of Zinc—useful for eye-lotion—and as a tonic or strengthening medicine.

* Seeds of Meadow saffron, an oz.—3d. To make wine—useful against rheumatism. See page 561, line 20 from the top.

* Carbonate of Soda, 2 oz.—at 1½d. or 2d. the oz.—Against acidity, &c.

Cayenne, powdered fine—as a stimulant.

Ammonia, or smelling salts—in a bottle.

Gum arabic, powdered.

* Quinine—price varies—in ague and in weakness.

Chalk, prepared, or compound chalk powder—to make chalk mixture.

Powdered Jalap.

* { Calomel, ½ an oz. mixed with 4 grains of Tartar Emetic, well rubbed together, } for inflammation and fever.

* Tartaric Acid.

* Pure Sulphate of Iron.

* Magnesia.

Acetate of Potash.

Some adhesive plaster, for melting and spreading on calico; and a little blister plaster, to spread when wanted to raise a blister—might be added.

All these should be wrapped in paper, marked, and then kept dry, by oilskin to envelope each powder. The ammonia should be kept in a bottle, well corked.

A box of aperient pills, consisting of Blue Pill and Compound Extract of Colocynth, 2 grains of each in each pill, would always be useful.

But the emigrant will find emigrant's tin medicine chests, fitted up by several druggists—Mr. Hooper, of Pall Mall, and others—if he can afford to give as much as 30 shillings.

The Epsom Salts, the Opium, the Quinine, the Sugar of Lead, and the Sulphate of Zinc, the Calomel and Antimony powders, are essential.

If there is no Quinine, the Sulphate of Zinc will often prove a substitute, to a certain extent—and it is useful also in ophthalmia. The Sugar of Lead is to make Goulard water; and it may be given internally in discharges of blood—as may be seen in Section IV.

Gentian or Calumba root is useful—so are Camphor and Ether; but bottles are required for the two last.

The Apothecary's Weights are:—

20 grains	make one scruple,	marked	℈j
3 scruples	„ one drachm,	„	ʒj.
8 drachms	„ one ounce,	„	℥j.
12 ounces	„ one pound,	„	lbj.

And the Measures of Liquids are:—

60 drops, or 60 minims,	make one drachm	.	ʒj.
8 drachms	„ one ounce	.	℥j.
20 ounces	„ one pint	.	Oj.
8 pints	„ one gallon	.	Cong.

The Doses of Medicines

Must be graduated according to age. We will assume the dose for a grown-up person to be 60 grains—then for a child under—

1 year,	the dose will be	one-twelfth, or 5 grains.
2 „	„	one-eighth, or 8 „
3 „	„	one-sixth, or 10 „
4 „	„	one-fourth, or 15 „

7 year,	the dose will be	one-third,	or 20 grains.
14 „	„	one-half,	or 30 „
20 „	„	two-thirds,	or 40 „
21 to 60 years	. . . . .		60 „

Above sixty the dose diminishes as the age increases.

A teaspoonful of liquid, equals sixty drops, or one drachm —a tablespoonful, half an ounce, and a dessertspoonful, about 180 drops—a wineglassful, about an ounce and a half. The quantities vary slightly, according to the nature of the contained liquids. And as to powders, a teaspoonful of a light powder, like Magnesia, equals ten to twenty grains—of a heavy one, as Sulphur, thirty to forty grains —of a metallic Oxide, sixty to eighty grains.

CONCLUSION.

The Author has now given all the directions, which he has considered likely to be practically useful; and when he thinks, on the numbers of his fellow-countrymen, who in Australia, California, and many parts of the continent, are living at a distance from effective medical assistance, he cannot but feel a fervent desire that the preceding medical advice and directions, may prove a great help in the time of need, and be the means of saving many a life—which might otherwise be lost.

May these pages be so blessed—and the writer will not have laboured in vain.

Synonymes of some of the medicines in these pages.

ENGLISH.	FRENCH.	GERMAN.	ITALIAN.
Calomel	Protochlorure de Mercure	Mildes Salzsaures Quecksilber	Mercurio dolce sublimato
Tartar emetic	Tartrate de Potasse Antimonié	Spiesglanz Weinstein	Tartaro antimoniato
Senna	Séné	Sennioblätter	Sena
Ipecacuana	Ipecacuanne	Brechwurzel	Ipecaquana
Carbonate of soda	Christaux de Soude	Kohlensaures natron	Carbonato di soda
—— of potash	Carbonate de potasse	Kohlensaures kali	Carbonato di potassa
Acetate of potash	Acetate de potasse	Essigsaures kali	Acetate di potassa
Tartrate of potash	Tartrate de potasse	Weinsteinsaures Kali	Tartrato di Potassa
Cream of tartar	Creme de tartre	Weinsteinrahm	Cremore di tartaro
Nitre	Nitrate de potasse	Saltpetersaures kali	Nitro—Salnitro
Sugar of lead	Acetate de plomb crystallisé	Essigsaures Blei	Zucchero di Saturno
Opium	Opium—capsules des pavots blancs	Mohnsaft, die Köpse des weissen mohns	Oppio—Capidel papavero
Calumba	Colombe	Kolumbo wurzel	Colomba
Sulphate of quinine	Sulphate de quinine	Schwefelsaures quinin	Solfato di Quinina
Gentian	Gentiane jaune	Gelber Enzian	Genziana
Sulphur	Soufre	Schwefel	Zolfo, Solfo
Hog's lard	Sain doux	Schweineschmalz	Lardo, Sugna
Ginger	Gingembre	Ingwer, Imber	Zenzero
Sulphate of zinc	Sulphate de zinc —vitriole blanc	Scwhefelsaures zinc-oxyd	Solfato di Zinco
Epsom salts	Sulphate de Magnésie	Schwefelsaure Magnesia—Bittersalz	Sale amaro d'Inghilterra; Ossio-sulfato di magnesia
Magnesia	Carbonate de magnésie	Kohlensaure magnesia	Carbonato di Magnesia
Iron	Fer	Eisen	Ferro
Carbonate of	Carbonate de fer	Kohlensaures Eisen Rost	Ossido carbonato di Ferro
Sulphate of	Sulphate de fer	Schwefelsaures eisen oxydid	Solfato di Protossido di ferro
Ammonia—carbonate of	Carbonate d'Ammoniaque	Kohlensaures Ammoniak	Sotto carbonato di Ammoniaco

English.	French.	German.	Italian.
Meadow saffron	Colchique or tuechien	Weissen Saffran or zeitlose	Colchico Autumnale
Spirits of ammonia: sal volatile	Alcohol Ammoniacale	Gristiger Ammonium liquor	Alcohole ammoniato
Jalap	Jalap	Jalappe	Scialappa
Rhubarb	Rhubarbe	Aechte Rhabarber	Rhabarbaro
Æther	Ether	Schwefeläther	Eter
Capsicum	Poivre d'Inde	Spanische oderturkircher pfeffer	Pepperone
Lunar Caustic	Nitrate d'argent	Salpetersaures Silber Wollenstein	Nitrato di argento —pietro infernale
Wine	Vin d'Espagne	Wein	Vino
Blistering plaster	Emplatre de Cantharides	Kanthariden pflaster	Emplastro di Cantarelle
Vinegar	Vinaigre	Essig	Aceto
Sulphuric acid, oil of vitriol	Acide sulphurique	Vitriolol Schwefelsäure	Acido solforico
Nitric acid	Acide nitrique	Salpetersäure	Acido Nitrico
Muriatic acid	Acide muriatique hydrochlorique	Salzsäure	Acido Muriatico
Cyanide of Potassium, to make hydrocyanic acid.	Cyanure de potasse		
Castor oil	La noix et l'huile de ricin	Ricinus Korner & Ricinusöhl	I semi e l'olio di Ricino
Monkshood, or aconite	Aconit napel Chaperon de moine	Eisenhut Blauer—strumhut	Napello
Hemlock	Cigue ordinaire	Geflecte Schierling	Cicuta maggiore
Henbane	Jusquiame	Bilsenkraut	Giusquiamo nero
Citric acid	Acide Citrique	Citronensaure	Acido citrico
Infusion	Infusion	Infusum	Infuso
Extract	Extrait	Extrakt	Estratto
Decoction	Decoction	Dekokte	Decotto
Liniment	Liniment	Liniment	Linimento
Powder	Poudre	Pulver	Polvere
Syrup	Sirop	Syrup	Sciroppo
Tincture	Teinture	Tinktur	Tintura

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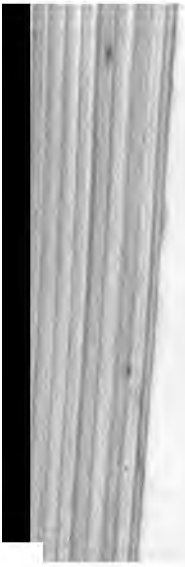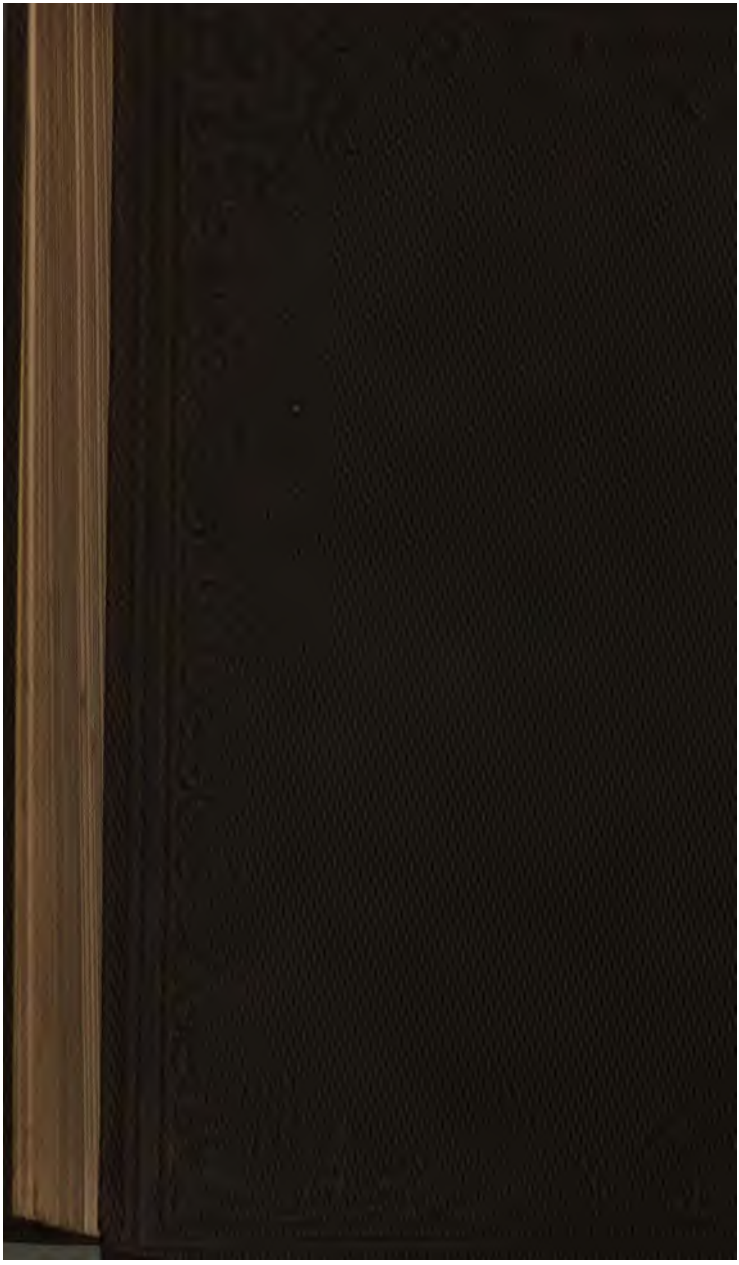
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